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(54) Title: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES

(57) Abstract: The present invention provides novel nucleic acids, novel polypeptide sequences encoded by these nucleic acids and uses thereof.

## NOVEL NUCLEIC ACIDS AND POLYPEPTIDES

### 1. TECHNICAL FIELD

The present invention provides novel polynucleotides and proteins encoded by such  
5 polynucleotides, along with uses for these polynucleotides and proteins, for example in  
therapeutic, diagnostic and research methods.

### 2. BACKGROUND

Technology aimed at the discovery of protein factors (including *e.g.*, cytokines, such as  
10 lymphokines, interferons, circulating soluble factors, chemokines, and interleukins) has matured  
rapidly over the past decade. The now routine hybridization cloning and expression cloning  
techniques clone novel polynucleotides "directly" in the sense that they rely on information  
directly related to the discovered protein (*i.e.*, partial DNA/amino acid sequence of the protein in  
the case of hybridization cloning; activity of the protein in the case of expression cloning). More  
15 recent "indirect" cloning techniques such as signal sequence cloning, which isolates DNA  
sequences based on the presence of a now well-recognized secretory leader sequence motif, as  
well as various PCR-based or low stringency hybridization-based cloning techniques, have  
advanced the state of the art by making available large numbers of DNA/amino acid sequences  
for proteins that are known to have biological activity, for example, by virtue of their secreted  
20 nature in the case of leader sequence cloning, by virtue of their cell or tissue source in the case of  
PCR-based techniques, or by virtue of structural similarity to other genes of known biological  
activity.

Identified polynucleotide and polypeptide sequences have numerous applications in, for  
example, diagnostics, forensics, gene mapping; identification of mutations responsible for  
25 genetic disorders or other traits, to assess biodiversity, and to produce many other types of data  
and products dependent on DNA and amino acid sequences.

### 3. SUMMARY OF THE INVENTION

The compositions of the present invention include novel isolated polypeptides, novel  
30 isolated polynucleotides encoding such polypeptides, including recombinant DNA molecules,  
cloned genes or degenerate variants thereof, especially naturally occurring variants such as allelic  
variants, antisense polynucleotide molecules, and antibodies that specifically recognize one or more  
epitopes present on such polypeptides, as well as hybridomas producing such antibodies.



The compositions of the present invention additionally include vectors, including expression vectors, containing the polynucleotides of the invention, cells genetically engineered to contain such polynucleotides and cells genetically engineered to express such polynucleotides.

5 The present invention relates to a collection or library of at least one novel nucleic acid sequence assembled from expressed sequence tags (ESTs) isolated mainly by sequencing by hybridization (SBH), and in some cases, sequences obtained from one or more public databases. The invention relates also to the proteins encoded by such polynucleotides, along with therapeutic, diagnostic and research utilities for these polynucleotides and proteins. These nucleic acid sequences are designated as SEQ ID NO: 1-8051. The polypeptides sequences are designated SEQ  
10 ID NO: 8052-16102. The nucleic acids and polypeptides are provided in the Sequence Listing. In the nucleic acids provided in the Sequence Listing, A is adenosine; C is cytosine; G is guanine; T is thymine; and N is any of the four bases. In the amino acids provided in the Sequence Listing, \* corresponds to the stop codon.

The nucleic acid sequences of the present invention also include, nucleic acid sequences that  
15 hybridize to the complement of SEQ ID NO: 1-8051 under stringent hybridization conditions; nucleic acid sequences which are allelic variants or species homologues of any of the nucleic acid sequences recited above, or nucleic acid sequences that encode a peptide comprising a specific domain or truncation of the peptides encoded by SEQ ID NO: 1-8051. A polynucleotide comprising a nucleotide sequence having at least 90% identity to an identifying sequence of SEQ  
20 ID NO: 1-8051 or a degenerate variant or fragment thereof. The identifying sequence can be 100 base pairs in length.

The nucleic acid sequences of the present invention also include the sequence information from the nucleic acid sequences of SEQ ID NO: 1-8051. The sequence information can be a segment of any one of SEQ ID NO: 1-8051 that uniquely identifies or represents the sequence  
25 information of SEQ ID NO: 1-8051.

A collection as used in this application can be a collection of only one polynucleotide. The collection of sequence information or identifying information of each sequence can be provided on a nucleic acid array. In one embodiment, segments of sequence information is provided on a nucleic acid array to detect the polynucleotide that contains the segment. The array can be designed  
30 to detect full-match or mismatch to the polynucleotide that contains the segment. The collection can also be provided in a computer-readable format.

This invention also includes the reverse or direct complement of any of the nucleic acid sequences recited above; cloning or expression vectors containing the nucleic acid sequences; and host cells or organisms transformed with these expression vectors. Nucleic acid sequences (or their  
35 reverse or direct complements) according to the invention have numerous applications in a variety

of techniques known to those skilled in the art of molecular biology, such as use as hybridization probes, use as primers for PCR, use in an array, use in computer-readable media, use in sequencing full-length genes, use for chromosome and gene mapping, use in the recombinant production of protein, and use in the generation of anti-sense DNA or RNA, their chemical analogs and the like.

5 In a preferred embodiment, the nucleic acid sequences of SEQ ID NO: 1-8051 or novel segments or parts of the nucleic acids of the invention are used as primers in expression assays that are well known in the art. In a particularly preferred embodiment, the nucleic acid sequences of SEQ ID NO: 1-8051 or novel segments or parts of the nucleic acids provided herein are used in diagnostics for identifying expressed genes or, as well known in the art and exemplified by Vollrath  
10 et al., *Science* 258:52-59 (1992), as expressed sequence tags for physical mapping of the human genome.

The isolated polynucleotides of the invention include, but are not limited to, a polynucleotide comprising any one of the nucleotide sequences set forth in SEQ ID NO: 1-8051; a polynucleotide comprising any of the full length protein coding sequences of SEQ ID NO: 1-8051;  
15 and a polynucleotide comprising any of the nucleotide sequences of the mature protein coding sequences of SEQ ID NO: 1-8051. The polynucleotides of the present invention also include, but are not limited to, a polynucleotide that hybridizes under stringent hybridization conditions to (a) the complement of any one of the nucleotide sequences set forth in SEQ ID NO: 1-8051; (b) a nucleotide sequence encoding any one of the amino acid sequences set forth in the Sequence Listing  
20 (*e.g.*, SEQ ID NO: 8052-16102); (c) a polynucleotide which is an allelic variant of any polynucleotides recited above; (d) a polynucleotide which encodes a species homolog (*e.g.* orthologs) of any of the proteins recited above; or (e) a polynucleotide that encodes a polypeptide comprising a specific domain or truncation of any of the polypeptides comprising an amino acid sequence set forth in the Sequence Listing.

25 The isolated polypeptides of the invention include, but are not limited to, a polypeptide comprising any of the amino acid sequences set forth in the Sequence Listing; or the corresponding full length or mature protein. Polypeptides of the invention also include polypeptides with biological activity that are encoded by (a) any of the polynucleotides having a nucleotide sequence set forth in SEQ ID NO: 1-8051; or (b) polynucleotides that hybridize to the complement of the  
30 polynucleotides of (a) under stringent hybridization conditions. Biologically or immunologically active variants of any of the polypeptide sequences in the Sequence Listing, and "substantial equivalents" thereof (*e.g.*, with at least about 65%, 70%, 75%, 80%, 85%, 90%, 95%, 98% or 99% amino acid sequence identity) that preferably retain biological activity are also contemplated. The polypeptides of the invention may be wholly or partially chemically synthesized but are preferably

produced by recombinant means using the genetically engineered cells (*e.g.* host cells) of the invention.

The invention also provides compositions comprising a polypeptide of the invention. Polypeptide compositions of the invention may further comprise an acceptable carrier, such as a hydrophilic, *e.g.*, pharmaceutically acceptable, carrier.

The invention also provides host cells transformed or transfected with a polynucleotide of the invention.

The invention also relates to methods for producing a polypeptide of the invention comprising growing a culture of the host cells of the invention in a suitable culture medium under conditions permitting expression of the desired polypeptide, and purifying the polypeptide from the culture or from the host cells. Preferred embodiments include those in which the protein produced by such process is a mature form of the protein.

Polynucleotides according to the invention have numerous applications in a variety of techniques known to those skilled in the art of molecular biology. These techniques include use as hybridization probes, use as oligomers, or primers, for PCR, use for chromosome and gene mapping, use in the recombinant production of protein, and use in generation of anti-sense DNA or RNA, their chemical analogs and the like. For example, when the expression of an mRNA is largely restricted to a particular cell or tissue type, polynucleotides of the invention can be used as hybridization probes to detect the presence of the particular cell or tissue mRNA in a sample using, *e.g.*, *in situ* hybridization.

In other exemplary embodiments, the polynucleotides are used in diagnostics as expressed sequence tags for identifying expressed genes or, as well known in the art and exemplified by Vollrath et al., Science 258:52-59 (1992), as expressed sequence tags for physical mapping of the human genome.

The polypeptides according to the invention can be used in a variety of conventional procedures and methods that are currently applied to other proteins. For example, a polypeptide of the invention can be used to generate an antibody that specifically binds the polypeptide. Such antibodies, particularly monoclonal antibodies, are useful for detecting or quantitating the polypeptide in tissue. The polypeptides of the invention can also be used as molecular weight markers, and as a food supplement.

Methods are also provided for preventing, treating, or ameliorating a medical condition which comprises the step of administering to a mammalian subject a therapeutically effective amount of a composition comprising a polypeptide of the present invention and a pharmaceutically acceptable carrier.

In particular, the polypeptides and polynucleotides of the invention can be utilized, for example, in methods for the prevention and/or treatment of disorders involving aberrant protein expression or biological activity.

The present invention further relates to methods for detecting the presence of the  
5 polynucleotides or polypeptides of the invention in a sample. Such methods can, for example, be utilized as part of prognostic and diagnostic evaluation of disorders as recited herein and for the identification of subjects exhibiting a predisposition to such conditions. The invention provides a method for detecting the polynucleotides of the invention in a sample, comprising contacting the sample with a compound that binds to and forms a complex with the polynucleotide of  
10 interest for a period sufficient to form the complex and under conditions sufficient to form a complex and detecting the complex such that if a complex is detected, the polynucleotide of interest is detected. The invention also provides a method for detecting the polypeptides of the invention in a sample comprising contacting the sample with a compound that binds to and forms a complex with the polypeptide under conditions and for a period sufficient to form the complex  
15 and detecting the formation of the complex such that if a complex is formed, the polypeptide is detected.

The invention also provides kits comprising polynucleotide probes and/or monoclonal antibodies, and optionally quantitative standards, for carrying out methods of the invention. Furthermore, the invention provides methods for evaluating the efficacy of drugs, and  
20 monitoring the progress of patients, involved in clinical trials for the treatment of disorders as recited above.

The invention also provides methods for the identification of compounds that modulate (*i.e.*, increase or decrease) the expression or activity of the polynucleotides and/or polypeptides of the invention. Such methods can be utilized, for example, for the identification of compounds  
25 that can ameliorate symptoms of disorders as recited herein. Such methods can include, but are not limited to, assays for identifying compounds and other substances that interact with (*e.g.*, bind to) the polypeptides of the invention. The invention provides a method for identifying a compound that binds to the polypeptides of the invention comprising contacting the compound with a polypeptide of the invention in a cell for a time sufficient to form a  
30 polypeptide/compound complex, wherein the complex drives expression of a reporter gene sequence in the cell; and detecting the complex by detecting the reporter gene sequence expression such that if expression of the reporter gene is detected the compound that binds to a polypeptide of the invention is identified.

The methods of the invention also provides methods for treatment which involve the  
35 administration of the polynucleotides or polypeptides of the invention to individuals exhibiting

symptoms or tendencies. In addition, the invention encompasses methods for treating diseases or disorders as recited herein comprising administering compounds and other substances that modulate the overall activity of the target gene products. Compounds and other substances can effect such modulation either on the level of target gene/protein expression or target protein activity.

The polypeptides of the present invention and the polynucleotides encoding them are also useful for the same functions known to one of skill in the art as the polypeptides and polynucleotides to which they have homology (set forth in the sequence listing). If no homology is set forth for a sequence, then the polypeptides and polynucleotides of the present invention are useful for a variety of applications, as described herein, including use in arrays for detection.

#### 4. DETAILED DESCRIPTION OF THE INVENTION

##### 4.1 DEFINITIONS

It must be noted that as used herein and in the appended claims, the singular forms "a", "an" and "the" include plural references unless the context clearly dictates otherwise.

The term "active" refers to those forms of the polypeptide which retain the biologic and/or immunologic activities of any naturally occurring polypeptide. According to the invention, the terms "biologically active" or "biological activity" refer to a protein or peptide having structural, regulatory or biochemical functions of a naturally occurring molecule. Likewise "immunologically active" or "immunological activity" refers to the capability of the natural, recombinant or synthetic polypeptide to induce a specific immune response in appropriate animals or cells and to bind with specific antibodies.

The term "activated cells" as used in this application are those cells which are engaged in extracellular or intracellular membrane trafficking, including the export of secretory or enzymatic molecules as part of a normal or disease process.

The terms "complementary" or "complementarity" refer to the natural binding of polynucleotides by base pairing. For example, the sequence 5'-AGT-3' binds to the complementary sequence 3'-TCA-5'. Complementarity between two single-stranded molecules may be "partial" such that only some of the nucleic acids bind or it may be "complete" such that total complementarity exists between the single stranded molecules. The degree of complementarity between the nucleic acid strands has significant effects on the efficiency and strength of the hybridization between the nucleic acid strands.

The term "embryonic stem cells (ES)" refers to a cell that can give rise to many differentiated cell types in an embryo or an adult, including the germ cells. The term "germ line stem cells (GSCs)" refers to stem cells derived from primordial stem cells that provide a steady and continuous source of germ cells for the production of gametes. The term "primordial germ cells (PGCs)" refers to a small population of cells set aside from other cell lineages particularly from the yolk sac, mesenteries, or gonadal ridges during embryogenesis that have the potential to differentiate into germ cells and other cells. PGCs are the source from which GSCs and ES cells are derived. The PGCs, the GSCs and the ES cells are capable of self-renewal. Thus these cells not only populate the germ line and give rise to a plurality of terminally differentiated cells that comprise the adult specialized organs, but are able to regenerate themselves.

The term "expression modulating fragment," EMF, means a series of nucleotides which modulates the expression of an operably linked ORF or another EMF.

As used herein, a sequence is said to "modulate the expression of an operably linked sequence" when the expression of the sequence is altered by the presence of the EMF. EMFs include, but are not limited to, promoters, and promoter modulating sequences (inducible elements). One class of EMFs are nucleic acid fragments which induce the expression of an operably linked ORF in response to a specific regulatory factor or physiological event.

The terms "nucleotide sequence" or "nucleic acid" or "polynucleotide" or "oligonucleotide" are used interchangeably and refer to a heteropolymer of nucleotides or the sequence of these nucleotides. These phrases also refer to DNA or RNA of genomic or synthetic origin which may be single-stranded or double-stranded and may represent the sense or the antisense strand, to peptide nucleic acid (PNA) or to any DNA-like or RNA-like material. In the sequences herein A is adenine, C is cytosine, T is thymine, G is guanine and N is A, C, G or T (U). It is contemplated that where the polynucleotide is RNA, the T (thymine) in the sequences provided herein is substituted with U (uracil). Generally, nucleic acid segments provided by this invention may be assembled from fragments of the genome and short oligonucleotide linkers, or from a series of oligonucleotides, or from individual nucleotides, to provide a synthetic nucleic acid which is capable of being expressed in a recombinant transcriptional unit comprising regulatory elements derived from a microbial or viral operon, or a eukaryotic gene.

The terms "oligonucleotide fragment" or a "polynucleotide fragment", "portion," or "segment" or "probe" or "primer" are used interchangeably and refer to a sequence of nucleotide residues which are at least about 5 nucleotides, more preferably at least about 7 nucleotides, more preferably at least about 9 nucleotides, more preferably at least about 11 nucleotides and most preferably at least about 17 nucleotides. The fragment is preferably less than about 500 nucleotides, preferably less than about 200 nucleotides, more preferably less than about 100

nucleotides, more preferably less than about 50 nucleotides and most preferably less than 30 nucleotides. Preferably the probe is from about 6 nucleotides to about 200 nucleotides, preferably from about 15 to about 50 nucleotides, more preferably from about 17 to 30 nucleotides and most preferably from about 20 to 25 nucleotides. Preferably the fragments can be used in polymerase chain reaction (PCR), various hybridization procedures or microarray procedures to identify or amplify identical or related parts of mRNA or DNA molecules. A fragment or segment may uniquely identify each polynucleotide sequence of the present invention. Preferably the fragment comprises a sequence substantially similar to any one of SEQ ID NO: 1-8051.

Probes may, for example, be used to determine whether specific mRNA molecules are present in a cell or tissue or to isolate similar nucleic acid sequences from chromosomal DNA as described by Walsh et al. (Walsh, P.S. et al., 1992, PCR Methods Appl 1:241-250). They may be labeled by nick translation, Klenow fill-in reaction, PCR, or other methods well known in the art. Probes of the present invention, their preparation and/or labeling are elaborated in Sambrook, J. et al., 1989, Molecular Cloning: A Laboratory Manual, Cold Spring Harbor Laboratory, NY; or Ausubel, F.M. et al., 1989, Current Protocols in Molecular Biology, John Wiley & Sons, New York NY, both of which are incorporated herein by reference in their entirety.

The nucleic acid sequences of the present invention also include the sequence information from the nucleic acid sequences of SEQ ID NO: 1-8051. The sequence information can be a segment of any one of SEQ ID NO: 1-8051 that uniquely identifies or represents the sequence information of that sequence of SEQ ID NO: 1-8051. One such segment can be a twenty-mer nucleic acid sequence because the probability that a twenty-mer is fully matched in the human genome is 1 in 300. In the human genome, there are three billion base pairs in one set of chromosomes. Because  $4^{20}$  possible twenty-mers exist, there are 300 times more twenty-mers than there are base pairs in a set of human chromosomes. Using the same analysis, the probability for a seventeen-mer to be fully matched in the human genome is approximately 1 in 5. When these segments are used in arrays for expression studies, fifteen-mer segments can be used. The probability that the fifteen-mer is fully matched in the expressed sequences is also approximately one in five because expressed sequences comprise less than approximately 5% of the entire genome sequence.

Similarly, when using sequence information for detecting a single mismatch, a segment can be a twenty-five mer. The probability that the twenty-five mer would appear in a human genome with a single mismatch is calculated by multiplying the probability for a full match ( $1/4^{25}$ ) times the increased probability for mismatch at each nucleotide position ( $3 \times 25$ ). The probability that an

eighteen mer with a single mismatch can be detected in an array for expression studies is approximately one in five. The probability that a twenty-mer with a single mismatch can be detected in a human genome is approximately one in five.

5 The term "open reading frame," ORF, means a series of nucleotide triplets coding for amino acids without any termination codons and is a sequence translatable into protein.

The terms "operably linked" or "operably associated" refer to functionally related nucleic acid sequences. For example, a promoter is operably associated or operably linked with a coding sequence if the promoter controls the transcription of the coding sequence. While operably linked nucleic acid sequences can be contiguous and in the same reading frame, certain genetic  
10 elements *e.g.* repressor genes are not contiguously linked to the coding sequence but still control transcription/translation of the coding sequence.

The term "pluripotent" refers to the capability of a cell to differentiate into a number of differentiated cell types that are present in an adult organism. A pluripotent cell is restricted in its differentiation capability in comparison to a totipotent cell.

15 The terms "polypeptide" or "peptide" or "amino acid sequence" refer to an oligopeptide, peptide, polypeptide or protein sequence or fragment thereof and to naturally occurring or synthetic molecules. A polypeptide "fragment," "portion," or "segment" is a stretch of amino acid residues of at least about 5 amino acids, preferably at least about 7 amino acids, more preferably at least about 9 amino acids and most preferably at least about 17 or more amino  
20 acids. The peptide preferably is not greater than about 200 amino acids, more preferably less than 150 amino acids and most preferably less than 100 amino acids. Preferably the peptide is from about 5 to about 200 amino acids. To be active, any polypeptide must have sufficient length to display biological and/or immunological activity.

The term "naturally occurring polypeptide" refers to polypeptides produced by cells that  
25 have not been genetically engineered and specifically contemplates various polypeptides arising from post-translational modifications of the polypeptide including, but not limited to, acetylation, carboxylation, glycosylation, phosphorylation, lipidation and acylation.

The term "translated protein coding portion" means a sequence which encodes for the full length protein which may include any leader sequence or any processing sequence.

30 The term "mature protein coding sequence" means a sequence which encodes a peptide or protein without a signal or leader sequence. The "mature protein portion" means that portion of the protein which does not include a signal or leader sequence. The peptide may have been produced by processing in the cell which removes any leader/signal sequence. The mature protein portion may or may not include an initial methionine residue. The methionine residue  
35 may be removed from the protein during processing in the cell. The peptide may be produced



synthetically or the protein may have been produced using a polynucleotide only encoding for the mature protein coding sequence.

The term "derivative" refers to polypeptides chemically modified by such techniques as ubiquitination, labeling (*e.g.*, with radionuclides or various enzymes), covalent polymer attachment such as pegylation (derivatization with polyethylene glycol) and insertion or substitution by chemical synthesis of amino acids such as ornithine, which do not normally occur in human proteins.

The term "variant" (or "analog") refers to any polypeptide differing from naturally occurring polypeptides by amino acid insertions, deletions, and substitutions, created using, *e.g.*, recombinant DNA techniques. Guidance in determining which amino acid residues may be replaced, added or deleted without abolishing activities of interest, may be found by comparing the sequence of the particular polypeptide with that of homologous peptides and minimizing the number of amino acid sequence changes made in regions of high homology (conserved regions) or by replacing amino acids with consensus sequence.

Alternatively, recombinant variants encoding these same or similar polypeptides may be synthesized or selected by making use of the "redundancy" in the genetic code. Various codon substitutions, such as the silent changes which produce various restriction sites, may be introduced to optimize cloning into a plasmid or viral vector or expression in a particular prokaryotic or eukaryotic system. Mutations in the polynucleotide sequence may be reflected in the polypeptide or domains of other peptides added to the polypeptide to modify the properties of any part of the polypeptide, to change characteristics such as ligand-binding affinities, interchain affinities, or degradation/turnover rate.

Preferably, amino acid "substitutions" are the result of replacing one amino acid with another amino acid having similar structural and/or chemical properties, *i.e.*, conservative amino acid replacements. "Conservative" amino acid substitutions may be made on the basis of similarity in polarity, charge, solubility, hydrophobicity, hydrophilicity, and/or the amphipathic nature of the residues involved. For example, nonpolar (hydrophobic) amino acids include alanine, leucine, isoleucine, valine, proline, phenylalanine, tryptophan, and methionine; polar neutral amino acids include glycine, serine, threonine, cysteine, tyrosine, asparagine, and glutamine; positively charged (basic) amino acids include arginine, lysine, and histidine; and negatively charged (acidic) amino acids include aspartic acid and glutamic acid. "Insertions" or "deletions" are preferably in the range of about 1 to 20 amino acids, more preferably 1 to 10 amino acids. The variation allowed may be experimentally determined by systematically making insertions, deletions, or substitutions of amino acids in a polypeptide molecule using recombinant DNA techniques and assaying the resulting recombinant variants for activity.

Alternatively, where alteration of function is desired, insertions, deletions or non-conservative alterations can be engineered to produce altered polypeptides. Such alterations can, for example, alter one or more of the biological functions or biochemical characteristics of the polypeptides of the invention. For example, such alterations may change polypeptide characteristics such as ligand-binding affinities, interchain affinities, or degradation/turnover rate. Further, such alterations can be selected so as to generate polypeptides that are better suited for expression, scale up and the like in the host cells chosen for expression. For example, cysteine residues can be deleted or substituted with another amino acid residue in order to eliminate disulfide bridges.

10 The terms "purified" or "substantially purified" as used herein denotes that the indicated nucleic acid or polypeptide is present in the substantial absence of other biological macromolecules, *e.g.*, polynucleotides, proteins, and the like. In one embodiment, the polynucleotide or polypeptide is purified such that it constitutes at least 95% by weight, more preferably at least 99% by weight, of the indicated biological macromolecules present (but water, buffers, and other small molecules, especially molecules having a molecular weight of less than 15 1000 daltons, can be present).

The term "isolated" as used herein refers to a nucleic acid or polypeptide separated from at least one other component (*e.g.*, nucleic acid or polypeptide) present with the nucleic acid or polypeptide in its natural source. In one embodiment, the nucleic acid or polypeptide is found in the presence of (if anything) only a solvent, buffer, ion, or other component normally present in a solution of the same. The terms "isolated" and "purified" do not encompass nucleic acids or polypeptides present in their natural source.

The term "recombinant," when used herein to refer to a polypeptide or protein, means that a polypeptide or protein is derived from recombinant (*e.g.*, microbial, insect, or mammalian) expression systems. "Microbial" refers to recombinant polypeptides or proteins made in bacterial or fungal (*e.g.*, yeast) expression systems. As a product, "recombinant microbial" defines a polypeptide or protein essentially free of native endogenous substances and unaccompanied by associated native glycosylation. Polypeptides or proteins expressed in most bacterial cultures, *e.g.*, *E. coli*, will be free of glycosylation modifications; polypeptides or proteins expressed in yeast will have a glycosylation pattern in general different from those expressed in mammalian cells.

The term "recombinant expression vehicle or vector" refers to a plasmid or phage or virus or vector, for expressing a polypeptide from a DNA (RNA) sequence. An expression vehicle can comprise a transcriptional unit comprising an assembly of (1) a genetic element or elements having a regulatory role in gene expression, for example, promoters or enhancers, (2) a structural

or coding sequence which is transcribed into mRNA and translated into protein, and (3) appropriate transcription initiation and termination sequences. Structural units intended for use in yeast or eukaryotic expression systems preferably include a leader sequence enabling extracellular secretion of translated protein by a host cell. Alternatively, where recombinant protein is expressed without a leader or transport sequence, it may include an amino terminal methionine residue. This residue may or may not be subsequently cleaved from the expressed recombinant protein to provide a final product.

The term "recombinant expression system" means host cells which have stably integrated a recombinant transcriptional unit into chromosomal DNA or carry the recombinant transcriptional unit extrachromosomally. Recombinant expression systems as defined herein will express heterologous polypeptides or proteins upon induction of the regulatory elements linked to the DNA segment or synthetic gene to be expressed. This term also means host cells which have stably integrated a recombinant genetic element or elements having a regulatory role in gene expression, for example, promoters or enhancers. Recombinant expression systems as defined herein will express polypeptides or proteins endogenous to the cell upon induction of the regulatory elements linked to the endogenous DNA segment or gene to be expressed. The cells can be prokaryotic or eukaryotic.

The term "secreted" includes a protein that is transported across or through a membrane, including transport as a result of signal sequences in its amino acid sequence when it is expressed in a suitable host cell. "Secreted" proteins include without limitation proteins secreted wholly (*e.g.*, soluble proteins) or partially (*e.g.*, receptors) from the cell in which they are expressed. "Secreted" proteins also include without limitation proteins that are transported across the membrane of the endoplasmic reticulum. "Secreted" proteins are also intended to include proteins containing non-typical signal sequences (*e.g.* Interleukin-1 Beta, see Krasney, P.A. and Young, P.R. (1992) Cytokine 4(2):134 -143) and factors released from damaged cells (*e.g.* Interleukin-1 Receptor Antagonist, see Arend, W.P. et. al. (1998) Annu. Rev. Immunol. 16:27-55)

Where desired, an expression vector may be designed to contain a "signal or leader sequence" which will direct the polypeptide through the membrane of a cell. Such a sequence may be naturally present on the polypeptides of the present invention or provided from heterologous protein sources by recombinant DNA techniques.

The term "stringent" is used to refer to conditions that are commonly understood in the art as stringent. Stringent conditions can include highly stringent conditions (*i.e.*, hybridization to filter-bound DNA in 0.5 M NaHPO<sub>4</sub>, 7% sodium dodecyl sulfate (SDS), 1 mM EDTA at 65°C, and washing in 0.1X SSC/0.1% SDS at 68°C), and moderately stringent conditions (*i.e.*,

washing in 0.2X SSC/0.1% SDS at 42°C). Other exemplary hybridization conditions are described herein in the examples.

In instances of hybridization of deoxyoligonucleotides, additional exemplary stringent hybridization conditions include washing in 6X SSC/0.05% sodium pyrophosphate at 37°C (for 14-base oligonucleotides), 48°C (for 17-base oligos), 55°C (for 20-base oligonucleotides), and 60°C (for 23-base oligonucleotides).

As used herein, "substantially equivalent" can refer both to nucleotide and amino acid sequences, for example a mutant sequence, that varies from a reference sequence by one or more substitutions, deletions, or additions, the net effect of which does not result in an adverse functional dissimilarity between the reference and subject sequences. Typically, such a substantially equivalent sequence varies from one of those listed herein by no more than about 35% (*i.e.*, the number of individual residue substitutions, additions, and/or deletions in a substantially equivalent sequence, as compared to the corresponding reference sequence, divided by the total number of residues in the substantially equivalent sequence is about 0.35 or less). Such a sequence is said to have 65% sequence identity to the listed sequence. In one embodiment, a substantially equivalent, *e.g.*, mutant, sequence of the invention varies from a listed sequence by no more than 30% (70% sequence identity); in a variation of this embodiment, by no more than 25% (75% sequence identity); and in a further variation of this embodiment, by no more than 20% (80% sequence identity) and in a further variation of this embodiment, by no more than 10% (90% sequence identity) and in a further variation of this embodiment, by no more than 5% (95% sequence identity). Substantially equivalent, *e.g.*, mutant, amino acid sequences according to the invention preferably have at least 80% sequence identity with a listed amino acid sequence, more preferably at least 85% sequence identity, more preferably at least 90% sequence identity, more preferably at least 95% identity, more preferably at least 98% identity, and most preferably at least 99% identity. Substantially equivalent nucleotide sequences of the invention can have lower percent sequence identities, taking into account, for example, the redundancy or degeneracy of the genetic code. Preferably, nucleotide sequence has at least about 65% identity, more preferably at least about 75% identity, more preferably at least about 80% sequence identity, more preferably at least about 85% sequence identity, more preferably at least about 90% sequence identity, and most preferably at least about 95% identity, more preferably at least about 98% sequence identity, and most preferably at least about 99% sequence identity. For the purposes of the present invention, sequences having substantially equivalent biological activity and substantially equivalent expression characteristics are considered substantially equivalent. For the purposes of determining equivalence, truncation of the mature sequence (*e.g.*, via a mutation which creates a spurious stop codon) should be

disregarded. Sequence identity may be determined, *e.g.*, using the Jotun Hein method (Hein, J. (1990) Methods Enzymol. 183:626-645). Identity between sequences can also be determined by other methods known in the art, *e.g.* by varying hybridization conditions.

5 The term "totipotent" refers to the capability of a cell to differentiate into all of the cell types of an adult organism.

The term "transformation" means introducing DNA into a suitable host cell so that the DNA is replicable, either as an extrachromosomal element, or by chromosomal integration. The term "transfection" refers to the taking up of an expression vector by a suitable host cell, whether or not any coding sequences are in fact expressed. The term "infection" refers to the introduction  
10 of nucleic acids into a suitable host cell by use of a virus or viral vector.

As used herein, an "uptake modulating fragment," UMF, means a series of nucleotides which mediate the uptake of a linked DNA fragment into a cell. UMFs can be readily identified using known UMFs as a target sequence or target motif with the computer-based systems described below. The presence and activity of a UMF can be confirmed by attaching the  
15 suspected UMF to a marker sequence. The resulting nucleic acid molecule is then incubated with an appropriate host under appropriate conditions and the uptake of the marker sequence is determined. As described above, a UMF will increase the frequency of uptake of a linked marker sequence.

Each of the above terms is meant to encompass all that is described for each, unless the  
20 context dictates otherwise.

## 4.2 NUCLEIC ACIDS OF THE INVENTION

Nucleotide sequences of the invention are set forth in the Sequence Listing.

The isolated polynucleotides of the invention include a polynucleotide comprising the  
25 nucleotide sequences of SEQ ID NO: 1-8051; a polynucleotide encoding any one of the peptide sequences of SEQ ID NO: 8052-16102; and a polynucleotide comprising the nucleotide sequence encoding the mature protein coding sequence of the polypeptides of any one of SEQ ID NO: 8052-16102. The polynucleotides of the present invention also include, but are not limited to, a polynucleotide that hybridizes under stringent conditions to (a) the complement of any of  
30 the nucleotides sequences of SEQ ID NO: 1-8051; (b) nucleotide sequences encoding any one of the amino acid sequences set forth in the Sequence Listing; (c) a polynucleotide which is an allelic variant of any polynucleotide recited above; (d) a polynucleotide which encodes a species homolog of any of the proteins recited above; or (e) a polynucleotide that encodes a polypeptide comprising a specific domain or truncation of the polypeptides of SEQ ID NO: 8052-16102.  
35 Domains of interest may depend on the nature of the encoded polypeptide; *e.g.*, domains in

receptor-like polypeptides include ligand-binding, extracellular, transmembrane, or cytoplasmic domains, or combinations thereof; domains in immunoglobulin-like proteins include the variable immunoglobulin-like domains; domains in enzyme-like polypeptides include catalytic and substrate binding domains; and domains in ligand polypeptides include receptor-binding domains.

The polynucleotides of the invention include naturally occurring or wholly or partially synthetic DNA, *e.g.*, cDNA and genomic DNA, and RNA, *e.g.*, mRNA. The polynucleotides may include all of the coding region of the cDNA or may represent a portion of the coding region of the cDNA.

The present invention also provides genes corresponding to the cDNA sequences disclosed herein. The corresponding genes can be isolated in accordance with known methods using the sequence information disclosed herein. Such methods include the preparation of probes or primers from the disclosed sequence information for identification and/or amplification of genes in appropriate genomic libraries or other sources of genomic materials. Further 5' and 3' sequence can be obtained using methods known in the art. For example, full length cDNA or genomic DNA that corresponds to any of the polynucleotides of SEQ ID NO: 1-8051 can be obtained by screening appropriate cDNA or genomic DNA libraries under suitable hybridization conditions using any of the polynucleotides of SEQ ID NO: 1-8051 or a portion thereof as a probe. Alternatively, the polynucleotides of SEQ ID NO: 1-8051 may be used as the basis for suitable primer(s) that allow identification and/or amplification of genes in appropriate genomic DNA or cDNA libraries.

The nucleic acid sequences of the invention can be assembled from ESTs and sequences (including cDNA and genomic sequences) obtained from one or more public databases, such as dbEST, gbpr, and UniGene. The EST sequences can provide identifying sequence information, representative fragment or segment information, or novel segment information for the full-length gene.

The polynucleotides of the invention also provide polynucleotides including nucleotide sequences that are substantially equivalent to the polynucleotides recited above. Polynucleotides according to the invention can have, *e.g.*, at least about 65%, at least about 70%, at least about 75%, at least about 80%, 81%, 82%, 83%, 84%, more typically at least about 85%, 86%, 87%, 88%, 89%, more typically at least about 90%, 91%, 92%, 93%, 94%, and even more typically at least about 95%, 96%, 97%, 98%, 99%, sequence identity to a polynucleotide recited above.

Included within the scope of the nucleic acid sequences of the invention are nucleic acid sequence fragments that hybridize under stringent conditions to any of the nucleotide sequences of SEQ ID NO: 1-8051, or complements thereof, which fragment is greater than about 5 nucleotides, preferably 7 nucleotides, more preferably greater than 9 nucleotides and most

preferably greater than 17 nucleotides. Fragments of, *e.g.* 15, 17, or 20 nucleotides or more that are selective for (*i.e.* specifically hybridize to any one of the polynucleotides of the invention) are contemplated. Probes capable of specifically hybridizing to a polynucleotide can differentiate polynucleotide sequences of the invention from other polynucleotide sequences in the same family of genes or can differentiate human genes from genes of other species, and are preferably based on unique nucleotide sequences.

The sequences falling within the scope of the present invention are not limited to these specific sequences, but also include allelic and species variations thereof. Allelic and species variations can be routinely determined by comparing the sequence provided in SEQ ID NO: 1-8051, a representative fragment thereof, or a nucleotide sequence at least 90% identical, preferably 95% identical, to SEQ ID NO: 1-8051 with a sequence from another isolate of the same species. Furthermore, to accommodate codon variability, the invention includes nucleic acid molecules coding for the same amino acid sequences as do the specific ORFs disclosed herein. In other words, in the coding region of an ORF, substitution of one codon for another codon that encodes the same amino acid is expressly contemplated.

The nearest neighbor or homology result for the nucleic acids of the present invention, including SEQ ID NO: 1-8051 can be obtained by searching a database using an algorithm or a program. Preferably, a BLAST which stands for Basic Local Alignment Search Tool is used to search for local sequence alignments (Altshul, S.F. J Mol. Evol. 36 290-300 (1993) and Altschul S.F. et al. J. Mol. Biol. 21:403-410 (1990)). Alternatively a FASTA version 3 search against Genpept, using Fastxy algorithm.

Species homologs (or orthologs) of the disclosed polynucleotides and proteins are also provided by the present invention. Species homologs may be isolated and identified by making suitable probes or primers from the sequences provided herein and screening a suitable nucleic acid source from the desired species.

The invention also encompasses allelic variants of the disclosed polynucleotides or proteins; that is, naturally occurring alternative forms of the isolated polynucleotide which also encode proteins which are identical, homologous or related to that encoded by the polynucleotides.

The nucleic acid sequences of the invention are further directed to sequences which encode variants of the described nucleic acids. These amino acid sequence variants may be prepared by methods known in the art by introducing appropriate nucleotide changes into a native or variant polynucleotide. There are two variables in the construction of amino acid sequence variants: the location of the mutation and the nature of the mutation. Nucleic acids encoding the amino acid sequence variants are preferably constructed by mutating the

polynucleotide to encode an amino acid sequence that does not occur in nature. These nucleic acid alterations can be made at sites that differ in the nucleic acids from different species (variable positions) or in highly conserved regions (constant regions). Sites at such locations will typically be modified in series, *e.g.*, by substituting first with conservative choices (*e.g.*, hydrophobic amino acid to a different hydrophobic amino acid) and then with more distant choices (*e.g.*, hydrophobic amino acid to a charged amino acid), and then deletions or insertions may be made at the target site. Amino acid sequence deletions generally range from about 1 to 30 residues, preferably about 1 to 10 residues, and are typically contiguous. Amino acid insertions include amino- and/or carboxyl-terminal fusions ranging in length from one to one hundred or more residues, as well as intrasequence insertions of single or multiple amino acid residues. Intrasequence insertions may range generally from about 1 to 10 amino residues, preferably from 1 to 5 residues. Examples of terminal insertions include the heterologous signal sequences necessary for secretion or for intracellular targeting in different host cells and sequences such as FLAG or poly-histidine sequences useful for purifying the expressed protein.

In a preferred method, polynucleotides encoding the novel amino acid sequences are changed via site-directed mutagenesis. This method uses oligonucleotide sequences to alter a polynucleotide to encode the desired amino acid variant, as well as sufficient adjacent nucleotides on both sides of the changed amino acid to form a stable duplex on either side of the site of being changed. In general, the techniques of site-directed mutagenesis are well known to those of skill in the art and this technique is exemplified by publications such as, Edelman et al., *DNA* 2:183 (1983). A versatile and efficient method for producing site-specific changes in a polynucleotide sequence was published by Zoller and Smith, *Nucleic Acids Res.* 10:6487-6500 (1982). PCR may also be used to create amino acid sequence variants of the novel nucleic acids. When small amounts of template DNA are used as starting material, primer(s) that differs slightly in sequence from the corresponding region in the template DNA can generate the desired amino acid variant. PCR amplification results in a population of product DNA fragments that differ from the polynucleotide template encoding the polypeptide at the position specified by the primer. The product DNA fragments replace the corresponding region in the plasmid and this gives a polynucleotide encoding the desired amino acid variant.

A further technique for generating amino acid variants is the cassette mutagenesis technique described in Wells et al., *Gene* 34:315 (1985); and other mutagenesis techniques well known in the art, such as, for example, the techniques in Sambrook et al., *supra*, and *Current Protocols in Molecular Biology*, Ausubel et al. Due to the inherent degeneracy of the genetic code, other DNA sequences which encode substantially the same or a functionally equivalent amino acid sequence may be used in the practice of the invention for the cloning and expression



of these novel nucleic acids. Such DNA sequences include those which are capable of hybridizing to the appropriate novel nucleic acid sequence under stringent conditions.

Polynucleotides encoding preferred polypeptide truncations of the invention can be used to generate polynucleotides encoding chimeric or fusion proteins comprising one or more domains of the invention and heterologous protein sequences.

The polynucleotides of the invention additionally include the complement of any of the polynucleotides recited above. The polynucleotide can be DNA (genomic, cDNA, amplified, or synthetic) or RNA. Methods and algorithms for obtaining such polynucleotides are well known to those of skill in the art and can include, for example, methods for determining hybridization conditions that can routinely isolate polynucleotides of the desired sequence identities.

In accordance with the invention, polynucleotide sequences comprising the mature protein coding sequences corresponding to any one of SEQ ID NO: 1-8051, or functional equivalents thereof, may be used to generate recombinant DNA molecules that direct the expression of that nucleic acid, or a functional equivalent thereof, in appropriate host cells. Also included are the cDNA inserts of any of the clones identified herein.

A polynucleotide according to the invention can be joined to any of a variety of other nucleotide sequences by well-established recombinant DNA techniques (see Sambrook J et al. (1989) *Molecular Cloning: A Laboratory Manual*, Cold Spring Harbor Laboratory, NY). Useful nucleotide sequences for joining to polynucleotides include an assortment of vectors, e.g., plasmids, cosmids, lambda phage derivatives, phagemids, and the like, that are well known in the art. Accordingly, the invention also provides a vector including a polynucleotide of the invention and a host cell containing the polynucleotide. In general, the vector contains an origin of replication functional in at least one organism, convenient restriction endonuclease sites, and a selectable marker for the host cell. Vectors according to the invention include expression vectors, replication vectors, probe generation vectors, and sequencing vectors. A host cell according to the invention can be a prokaryotic or eukaryotic cell and can be a unicellular organism or part of a multicellular organism.

The present invention further provides recombinant constructs comprising a nucleic acid having any of the nucleotide sequences of SEQ ID NO: 1-8051 or a fragment thereof or any other polynucleotides of the invention. In one embodiment, the recombinant constructs of the present invention comprise a vector, such as a plasmid or viral vector, into which a nucleic acid having any of the nucleotide sequences of SEQ ID NO: 1-8051 or a fragment thereof is inserted, in a forward or reverse orientation. In the case of a vector comprising one of the ORFs of the present invention, the vector may further comprise regulatory sequences, including for example, a promoter, operably linked to the ORF. Large numbers of suitable vectors and promoters are

known to those of skill in the art and are commercially available for generating the recombinant constructs of the present invention. The following vectors are provided by way of example.

Bacterial: pBs, phagescript, PsiX174, pBluescript SK, pBs KS, pNH8a, pNH16a, pNH18a, pNH46a (Stratagene); pTrc99A, pKK223-3, pKK233-3, pDR540, pRIT5 (Pharmacia).

- 5 Eukaryotic: pWLneo, pSV2cat, pOG44, PXTI, pSG (Stratagene) pSVK3, pBPV, pMSG, pSVL (Pharmacia).

The isolated polynucleotide of the invention may be operably linked to an expression control sequence such as the pMT2 or pED expression vectors disclosed in Kaufman et al., *Nucleic Acids Res.* 19, 4485-4490 (1991), in order to produce the protein recombinantly. Many  
10 suitable expression control sequences are known in the art. General methods of expressing recombinant proteins are also known and are exemplified in R. Kaufman, *Methods in Enzymology* 185, 537-566 (1990). As defined herein "operably linked" means that the isolated polynucleotide of the invention and an expression control sequence are situated within a vector or cell in such a way that the protein is expressed by a host cell which has been transformed  
15 (transfected) with the ligated polynucleotide/expression control sequence.

Promoter regions can be selected from any desired gene using CAT (chloramphenicol transferase) vectors or other vectors with selectable markers. Two appropriate vectors are pKK232-8 and pCM7. Particular named bacterial promoters include lacI, lacZ, T3, T7, gpt, lambda PR, and trc. Eukaryotic promoters include CMV immediate early, HSV thymidine  
20 kinase, early and late SV40, LTRs from retrovirus, and mouse metallothionein-I. Selection of the appropriate vector and promoter is well within the level of ordinary skill in the art. Generally, recombinant expression vectors will include origins of replication and selectable markers permitting transformation of the host cell, e.g., the ampicillin resistance gene of *E. coli* and *S. cerevisiae* TRP1 gene, and a promoter derived from a highly-expressed gene to direct  
25 transcription of a downstream structural sequence. Such promoters can be derived from operons encoding glycolytic enzymes such as 3-phosphoglycerate kinase (PGK), a-factor, acid phosphatase, or heat shock proteins, among others. The heterologous structural sequence is assembled in appropriate phase with translation initiation and termination sequences, and preferably, a leader sequence capable of directing secretion of translated protein into the  
30 periplasmic space or extracellular medium. Optionally, the heterologous sequence can encode a fusion protein including an amino terminal identification peptide imparting desired characteristics, e.g., stabilization or simplified purification of expressed recombinant product. Useful expression vectors for bacterial use are constructed by inserting a structural DNA sequence encoding a desired protein together with suitable translation initiation and termination  
35 signals in operable reading phase with a functional promoter. The vector will comprise one or

more phenotypic selectable markers and an origin of replication to ensure maintenance of the vector and to, if desirable, provide amplification within the host. Suitable prokaryotic hosts for transformation include *E. coli*, *Bacillus subtilis*, *Salmonella typhimurium* and various species within the genera *Pseudomonas*, *Streptomyces*, and *Staphylococcus*, although others may also be employed as a matter of choice.

As a representative but non-limiting example, useful expression vectors for bacterial use can comprise a selectable marker and bacterial origin of replication derived from commercially available plasmids comprising genetic elements of the well known cloning vector pBR322 (ATCC 37017). Such commercial vectors include, for example, pKK223-3 (Pharmacia Fine Chemicals, Uppsala, Sweden) and GEM 1 (Promega Biotech, Madison, WI, USA). These pBR322 "backbone" sections are combined with an appropriate promoter and the structural sequence to be expressed. Following transformation of a suitable host strain and growth of the host strain to an appropriate cell density, the selected promoter is induced or derepressed by appropriate means (*e.g.*, temperature shift or chemical induction) and cells are cultured for an additional period. Cells are typically harvested by centrifugation, disrupted by physical or chemical means, and the resulting crude extract retained for further purification.

Polynucleotides of the invention can also be used to induce immune responses. For example, as described in Fan et al., *Nat. Biotech.* 17:870-872 (1999), incorporated herein by reference, nucleic acid sequences encoding a polypeptide may be used to generate antibodies against the encoded polypeptide following topical administration of naked plasmid DNA or following injection, and preferably intramuscular injection of the DNA. The nucleic acid sequences are preferably inserted in a recombinant expression vector and may be in the form of naked DNA.

#### 4.3 ANTISENSE

Another aspect of the invention pertains to isolated antisense nucleic acid molecules that are hybridizable to or complementary to the nucleic acid molecule comprising the nucleotide sequence of SEQ ID NO: 1-8051, or fragments, analogs or derivatives thereof. An "antisense" nucleic acid comprises a nucleotide sequence that is complementary to a "sense" nucleic acid encoding a protein, *e.g.*, complementary to the coding strand of a double-stranded cDNA molecule or complementary to an mRNA sequence. In specific aspects, antisense nucleic acid molecules are provided that comprise a sequence complementary to at least about 10, 25, 50, 100, 250 or 500 nucleotides or an entire coding strand, or to only a portion thereof. Nucleic acid molecules encoding fragments, homologs, derivatives and analogs of a protein of any of SEQ ID

NO: 8052-16102 or antisense nucleic acids complementary to a nucleic acid sequence of SEQ ID NO: 1-8051 are additionally provided.

In one embodiment, an antisense nucleic acid molecule is antisense to a "coding region" of the coding strand of a nucleotide sequence of the invention. The term "coding region" refers to the region of the nucleotide sequence comprising codons which are translated into amino acid residues. In another embodiment, the antisense nucleic acid molecule is antisense to a "noncoding region" of the coding strand of a nucleotide sequence of the invention. The term "noncoding region" refers to 5' and 3' sequences which flank the coding region that are not translated into amino acids (*i.e.*, also referred to as 5' and 3' untranslated regions).

Given the coding strand sequences encoding a nucleic acid disclosed herein (*e.g.*, SEQ ID NO: 1-8051), antisense nucleic acids of the invention can be designed according to the rules of Watson and Crick or Hoogsteen base pairing. The antisense nucleic acid molecule can be complementary to the entire coding region of a mRNA, but more preferably is an oligonucleotide that is antisense to only a portion of the coding or noncoding region of a mRNA. For example, the antisense oligonucleotide can be complementary to the region surrounding the translation start site of a mRNA. An antisense oligonucleotide can be, for example, about 5, 10, 15, 20, 25, 30, 35, 40, 45 or 50 nucleotides in length. An antisense nucleic acid of the invention can be constructed using chemical synthesis or enzymatic ligation reactions using procedures known in the art. For example, an antisense nucleic acid (*e.g.*, an antisense oligonucleotide) can be chemically synthesized using naturally occurring nucleotides or variously modified nucleotides designed to increase the biological stability of the molecules or to increase the physical stability of the duplex formed between the antisense and sense nucleic acids, *e.g.*, phosphorothioate derivatives and acridine substituted nucleotides can be used.

Examples of modified nucleotides that can be used to generate the antisense nucleic acid include: 5-fluorouracil, 5-bromouracil, 5-chlorouracil, 5-iodouracil, hypoxanthine, xanthine, 4-acetylcytosine, 5-(carboxyhydroxymethyl) uracil, 5-carboxymethylaminomethyl-2-thiouridine, 5-carboxymethylaminomethyluracil, dihydrouracil, beta-D-galactosylqueosine, inosine, N6-isopentenyladenine, 1-methylguanine, 1-methylinosine, 2,2-dimethylguanine, 2-methyladenine, 2-methylguanine, 3-methylcytosine, 5-methylcytosine, N6-adenine, 7-methylguanine, 5-methylaminomethyluracil, 5-methoxyaminomethyl-2-thiouracil, beta-D-mannosylqueosine, 5'-methoxycarboxymethyluracil, 5-methoxyuracil, 2-methylthio-N6-isopentenyladenine, uracil-5-oxyacetic acid (v), wybutoxosine, pseudouracil, queosine, 2-thiocytosine, 5-methyl-2-thiouracil, 2-thiouracil, 4-thiouracil, 5-methyluracil, uracil-5-oxyacetic acid methylester, uracil-5-oxyacetic acid (v), 5-methyl-2-thiouracil, 3-(3-amino-3-N-2-carboxypropyl) uracil, (acp3)w, and 2,6-diaminopurine. Alternatively, the

antisense nucleic acid can be produced biologically using an expression vector into which a nucleic acid has been subcloned in an antisense orientation (*i.e.*, RNA transcribed from the inserted nucleic acid will be of an antisense orientation to a target nucleic acid of interest, described further in the following subsection).

5           The antisense nucleic acid molecules of the invention are typically administered to a subject or generated *in situ* such that they hybridize with or bind to cellular mRNA and/or genomic DNA encoding a protein according to the invention to thereby inhibit expression of the protein, *e.g.*, by inhibiting transcription and/or translation. The hybridization can be by conventional nucleotide complementarity to form a stable duplex, or, for example, in the case of  
10   an antisense nucleic acid molecule that binds to DNA duplexes, through specific interactions in the major groove of the double helix. An example of a route of administration of antisense nucleic acid molecules of the invention includes direct injection at a tissue site. Alternatively, antisense nucleic acid molecules can be modified to target selected cells and then administered systemically. For example, for systemic administration, antisense molecules can be modified  
15   such that they specifically bind to receptors or antigens expressed on a selected cell surface, *e.g.*, by linking the antisense nucleic acid molecules to peptides or antibodies that bind to cell surface receptors or antigens. The antisense nucleic acid molecules can also be delivered to cells using the vectors described herein. To achieve sufficient intracellular concentrations of antisense molecules, vector constructs in which the antisense nucleic acid molecule is placed under the  
20   control of a strong pol II or pol III promoter are preferred.

          In yet another embodiment, the antisense nucleic acid molecule of the invention is an  $\alpha$ -anomeric nucleic acid molecule. An  $\alpha$ -anomeric nucleic acid molecule forms specific double-stranded hybrids with complementary RNA in which, contrary to the usual  $\alpha$ -units, the strands run parallel to each other (Gaultier *et al.* (1987) *Nucleic Acids Res* 15: 6625-6641). The  
25   antisense nucleic acid molecule can also comprise a 2'-o-methylribonucleotide (Inoue *et al.* (1987) *Nucleic Acids Res* 15: 6131-6148) or a chimeric RNA-DNA analogue (Inoue *et al.* (1987) *FEBS Lett* 215: 327-330).

#### 4.4 RIBOZYMES AND PNA MOIETIES

30           In still another embodiment, an antisense nucleic acid of the invention is a ribozyme. Ribozymes are catalytic RNA molecules with ribonuclease activity that are capable of cleaving a single-stranded nucleic acid, such as a mRNA, to which they have a complementary region. Thus, ribozymes (*e.g.*, hammerhead ribozymes (described in Haselhoff and Gerlach (1988) *Nature* 334:585-591)) can be used to catalytically cleave a mRNA transcripts to thereby inhibit  
35   translation of a mRNA. A ribozyme having specificity for a nucleic acid of the invention can be

designed based upon the nucleotide sequence of a DNA disclosed herein (*i.e.*, SEQ ID NO: 1-8051). For example, a derivative of a Tetrahymena L-19 IVS RNA can be constructed in which the nucleotide sequence of the active site is complementary to the nucleotide sequence to be cleaved in an mRNA of SEQ ID NO: 1-8051 (see, *e.g.*, Cech *et al.* U.S. Pat. No. 4,987,071; and  
5 Cech *et al.* U.S. Pat. No. 5,116,742). Alternatively, polynucleotides of the invention can be used to select a catalytic RNA having a specific ribonuclease activity from a pool of RNA molecules. See, *e.g.*, Bartel *et al.*, (1993) *Science* 261:1411-1418.

Alternatively, gene expression can be inhibited by targeting nucleotide sequences complementary to the regulatory region (*e.g.*, promoter and/or enhancers) to form triple helical  
10 structures that prevent transcription of the gene in target cells. See generally, Helene. (1991) *Anticancer Drug Des.* 6: 569-84; Helene. *et al.* (1992) *Ann. N.Y. Acad. Sci.* 660:27-36; and Maher (1992) *Bioassays* 14: 807-15.

In various embodiments, the nucleic acids of the invention can be modified at the base moiety, sugar moiety or phosphate backbone to improve, *e.g.*, the stability, hybridization, or  
15 solubility of the molecule. For example, the deoxyribose phosphate backbone of the nucleic acids can be modified to generate peptide nucleic acids (see Hyrup *et al.* (1996) *Bioorg Med Chem* 4: 5-23). As used herein, the terms "peptide nucleic acids" or "PNAs" refer to nucleic acid mimics, *e.g.*, DNA mimics, in which the deoxyribose phosphate backbone is replaced by a pseudopeptide backbone and only the four natural nucleobases are retained. The neutral  
20 backbone of PNAs has been shown to allow for specific hybridization to DNA and RNA under conditions of low ionic strength. The synthesis of PNA oligomers can be performed using standard solid phase peptide synthesis protocols as described in Hyrup *et al.* (1996) above; Perry-O'Keefe *et al.* (1996) *PNAS* 93: 14670-675.

PNAs of the invention can be used in therapeutic and diagnostic applications. For  
25 example, PNAs can be used as antisense or antigene agents for sequence-specific modulation of gene expression by, *e.g.*, inducing transcription or translation arrest or inhibiting replication. PNAs of the invention can also be used, *e.g.*, in the analysis of single base pair mutations in a gene by, *e.g.*, PNA directed PCR clamping; as artificial restriction enzymes when used in combination with other enzymes, *e.g.*, S1 nucleases (Hyrup B. (1996) above); or as probes or  
30 primers for DNA sequence and hybridization (Hyrup *et al.* (1996), above; Perry-O'Keefe (1996), above).

In another embodiment, PNAs of the invention can be modified, *e.g.*, to enhance their stability or cellular uptake, by attaching lipophilic or other helper groups to PNA, by the formation of PNA-DNA chimeras, or by the use of liposomes or other techniques of drug  
35 delivery known in the art. For example, PNA-DNA chimeras can be generated that may

combine the advantageous properties of PNA and DNA. Such chimeras allow DNA recognition enzymes, *e.g.*, RNase H and DNA polymerases, to interact with the DNA portion while the PNA portion would provide high binding affinity and specificity. PNA-DNA chimeras can be linked using linkers of appropriate lengths selected in terms of base stacking, number of bonds between the nucleobases, and orientation (Hyrup (1996) above). The synthesis of PNA-DNA chimeras can be performed as described in Hyrup (1996) above and Finn *et al.* (1996) *Nucl Acids Res* 24: 3357-63. For example, a DNA chain can be synthesized on a solid support using standard phosphoramidite coupling chemistry, and modified nucleoside analogs, *e.g.*, 5'-(4-methoxytrityl)amino-5'-deoxy-thymidine phosphoramidite, can be used between the PNA and the 5' end of DNA (Mag *et al.* (1989) *Nucl Acid Res* 17: 5973-88). PNA monomers are then coupled in a stepwise manner to produce a chimeric molecule with a 5' PNA segment and a 3' DNA segment (Finn *et al.* (1996) above). Alternatively, chimeric molecules can be synthesized with a 5' DNA segment and a 3' PNA segment. See, Petersen *et al.* (1975) *Bioorg Med Chem Lett* 5: 1119-11124.

In other embodiments, the oligonucleotide may include other appended groups such as peptides (*e.g.*, for targeting host cell receptors *in vivo*), or agents facilitating transport across the cell membrane (see, *e.g.*, Letsinger *et al.*, 1989, *Proc. Natl. Acad. Sci. U.S.A.* 86:6553-6556; Lemaitre *et al.*, 1987, *Proc. Natl. Acad. Sci.* 84:648-652; PCT Publication No. W088/09810) or the blood-brain barrier (see, *e.g.*, PCT Publication No. W089/10134). In addition, oligonucleotides can be modified with hybridization triggered cleavage agents (See, *e.g.*, Krol *et al.*, 1988, *BioTechniques* 6:958-976) or intercalating agents (see, *e.g.*, Zon, 1988, *Pharm. Res.* 5:539-549). To this end, the oligonucleotide may be conjugated to another molecule, *e.g.*, a peptide, a hybridization triggered cross-linking agent, a transport agent, a hybridization-triggered cleavage agent, etc.

#### 4.5 HOSTS

The present invention further provides host cells genetically engineered to contain the polynucleotides of the invention. For example, such host cells may contain nucleic acids of the invention introduced into the host cell using known transformation, transfection or infection methods. The present invention still further provides host cells genetically engineered to express the polynucleotides of the invention, wherein such polynucleotides are in operative association with a regulatory sequence heterologous to the host cell which drives expression of the polynucleotides in the cell.

Knowledge of nucleic acid sequences allows for modification of cells to permit, or increase, expression of endogenous polypeptide. Cells can be modified (*e.g.*, by homologous

recombination) to provide increased polypeptide expression by replacing, in whole or in part, the naturally occurring promoter with all or part of a heterologous promoter so that the cells express the polypeptide at higher levels. The heterologous promoter is inserted in such a manner that it is operatively linked to the encoding sequences. See, for example, PCT International Publication No. WO94/12650, PCT International Publication No. WO92/20808, and PCT International Publication No. WO91/09955. It is also contemplated that, in addition to heterologous promoter DNA, amplifiable marker DNA (e.g., *ada*, *dhfr*, and the multifunctional CAD gene which encodes carbamyl phosphate synthase, aspartate transcarbamylase, and dihydroorotase) and/or intron DNA may be inserted along with the heterologous promoter DNA. If linked to the coding sequence, amplification of the marker DNA by standard selection methods results in co-amplification of the desired protein coding sequences in the cells.

The host cell can be a higher eukaryotic host cell, such as a mammalian cell, a lower eukaryotic host cell, such as a yeast cell, or the host cell can be a prokaryotic cell, such as a bacterial cell. Introduction of the recombinant construct into the host cell can be effected by calcium phosphate transfection, DEAE, dextran mediated transfection, or electroporation (Davis, L. et al., *Basic Methods in Molecular Biology* (1986)). The host cells containing one of the polynucleotides of the invention, can be used in conventional manners to produce the gene product encoded by the isolated fragment (in the case of an ORF) or can be used to produce a heterologous protein under the control of the EMF.

Any host/vector system can be used to express one or more of the ORFs of the present invention. These include, but are not limited to, eukaryotic hosts such as HeLa cells, Cv-1 cell, COS cells, 293 cells, and Sf9 cells, as well as prokaryotic host such as *E. coli* and *B. subtilis*. The most preferred cells are those which do not normally express the particular polypeptide or protein or which expresses the polypeptide or protein at low natural level. Mature proteins can be expressed in mammalian cells, yeast, bacteria, or other cells under the control of appropriate promoters. Cell-free translation systems can also be employed to produce such proteins using RNAs derived from the DNA constructs of the present invention. Appropriate cloning and expression vectors for use with prokaryotic and eukaryotic hosts are described by Sambrook, et al., in *Molecular Cloning: A Laboratory Manual*, Second Edition, Cold Spring Harbor, New York (1989), the disclosure of which is hereby incorporated by reference.

Various mammalian cell culture systems can also be employed to express recombinant protein. Examples of mammalian expression systems include the COS-7 lines of monkey kidney fibroblasts, described by Gluzman, *Cell* 23:175 (1981). Other cell lines capable of expressing a compatible vector are, for example, the C127, monkey COS cells, Chinese Hamster Ovary (CHO) cells, human kidney 293 cells, human epidermal A431 cells, human Colo205 cells, 3T3



cells, CV-1 cells, other transformed primate cell lines, normal diploid cells, cell strains derived from *in vitro* culture of primary tissue, primary explants, HeLa cells, mouse L cells, BHK, HL-60, U937, HaK or Jurkat cells. Mammalian expression vectors will comprise an origin of replication, a suitable promoter and also any necessary ribosome binding sites, polyadenylation site, splice donor and acceptor sites, transcriptional termination sequences, and 5' flanking nontranscribed sequences. DNA sequences derived from the SV40 viral genome, for example, SV40 origin, early promoter, enhancer, splice, and polyadenylation sites may be used to provide the required nontranscribed genetic elements. Recombinant polypeptides and proteins produced in bacterial culture are usually isolated by initial extraction from cell pellets, followed by one or more salting-out, aqueous ion exchange or size exclusion chromatography steps. Protein refolding steps can be used, as necessary, in completing configuration of the mature protein. Finally, high performance liquid chromatography (HPLC) can be employed for final purification steps. Microbial cells employed in expression of proteins can be disrupted by any convenient method, including freeze-thaw cycling, sonication, mechanical disruption, or use of cell lysing agents.

Alternatively, it may be possible to produce the protein in lower eukaryotes such as yeast or insects or in prokaryotes such as bacteria. Potentially suitable yeast strains include *Saccharomyces cerevisiae*, *Schizosaccharomyces pombe*, *Kluyveromyces* strains, *Candida*, or any yeast strain capable of expressing heterologous proteins. Potentially suitable bacterial strains include *Escherichia coli*, *Bacillus subtilis*, *Salmonella typhimurium*, or any bacterial strain capable of expressing heterologous proteins. If the protein is made in yeast or bacteria, it may be necessary to modify the protein produced therein, for example by phosphorylation or glycosylation of the appropriate sites, in order to obtain the functional protein. Such covalent attachments may be accomplished using known chemical or enzymatic methods.

In another embodiment of the present invention, cells and tissues may be engineered to express an endogenous gene comprising the polynucleotides of the invention under the control of inducible regulatory elements, in which case the regulatory sequences of the endogenous gene may be replaced by homologous recombination. As described herein, gene targeting can be used to replace a gene's existing regulatory region with a regulatory sequence isolated from a different gene or a novel regulatory sequence synthesized by genetic engineering methods. Such regulatory sequences may be comprised of promoters, enhancers, scaffold-attachment regions, negative regulatory elements, transcriptional initiation sites, regulatory protein binding sites or combinations of said sequences. Alternatively, sequences which affect the structure or stability of the RNA or protein produced may be replaced, removed, added, or otherwise modified by targeting. These sequence include polyadenylation signals, mRNA stability elements, splice

sites, leader sequences for enhancing or modifying transport or secretion properties of the protein, or other sequences which alter or improve the function or stability of protein or RNA molecules.

The targeting event may be a simple insertion of the regulatory sequence, placing the  
5 gene under the control of the new regulatory sequence, *e.g.*, inserting a new promoter or  
enhancer or both upstream of a gene. Alternatively, the targeting event may be a simple deletion  
of a regulatory element, such as the deletion of a tissue-specific negative regulatory element.  
Alternatively, the targeting event may replace an existing element; for example, a tissue-specific  
enhancer can be replaced by an enhancer that has broader or different cell-type specificity than  
10 the naturally occurring elements. Here, the naturally occurring sequences are deleted and new  
sequences are added. In all cases, the identification of the targeting event may be facilitated by  
the use of one or more selectable marker genes that are contiguous with the targeting DNA,  
allowing for the selection of cells in which the exogenous DNA has integrated into the host cell  
genome. The identification of the targeting event may also be facilitated by the use of one or  
15 more marker genes exhibiting the property of negative selection, such that the negatively  
selectable marker is linked to the exogenous DNA, but configured such that the negatively  
selectable marker flanks the targeting sequence, and such that a correct homologous  
recombination event with sequences in the host cell genome does not result in the stable  
integration of the negatively selectable marker. Markers useful for this purpose include the  
20 Herpes Simplex Virus thymidine kinase (TK) gene or the bacterial xanthine-guanine  
phosphoribosyl-transferase (gpt) gene.

The gene targeting or gene activation techniques which can be used in accordance with  
this aspect of the invention are more particularly described in U.S. Patent No. 5,272,071 to  
Chappel; U.S. Patent No. 5,578,461 to Sherwin et al.; International Application No.  
25 PCT/US92/09627 (WO93/09222) by Selden et al.; and International Application No.  
PCT/US90/06436 (WO91/06667) by Skoultchi et al., each of which is incorporated by reference  
herein in its entirety.

#### 4.6 POLYPEPTIDES OF THE INVENTION

30 The isolated polypeptides of the invention include, but are not limited to, a polypeptide  
comprising: the amino acid sequences set forth as any one of SEQ ID NO: 8052-16102 or an  
amino acid sequence encoded by any one of the nucleotide sequences SEQ ID NO: 1-8051 or the  
corresponding full length or mature protein. Polypeptides of the invention also include  
polypeptides preferably with biological or immunological activity that are encoded by: (a) a  
35 polynucleotide having any one of the nucleotide sequences set forth in SEQ ID NO: 1-8051 or

- (b) polynucleotides encoding any one of the amino acid sequences set forth as SEQ ID NO: 8052-16102 or (c) polynucleotides that hybridize to the complement of the polynucleotides of either (a) or (b) under stringent hybridization conditions. The invention also provides biologically active or immunologically active variants of any of the amino acid sequences set forth as SEQ ID NO: 8052-16102 or the corresponding full length or mature protein; and
- 5 "substantial equivalents" thereof (*e.g.*, with at least about 65%, at least about 70%, at least about 75%, at least about 80%, at least about 85%, 86%, 87%, 88%, 89%, at least about 90%, 91%, 92%, 93%, 94%, typically at least about 95%, 96%, 97%, more typically at least about 98%, or most typically at least about 99% amino acid identity) that retain biological activity.
- 10 Polypeptides encoded by allelic variants may have a similar, increased, or decreased activity compared to polypeptides comprising SEQ ID NO: 8052-16102.

Fragments of the proteins of the present invention which are capable of exhibiting biological activity are also encompassed by the present invention. Fragments of the protein may be in linear form or they may be cyclized using known methods, for example, as described in H. U. Saragovi, et al., *Bio/Technology* 10, 773-778 (1992) and in R. S. McDowell, et al., *J. Amer. Chem. Soc.* 114, 9245-9253 (1992), both of which are incorporated herein by reference. Such fragments may be fused to carrier molecules such as immunoglobulins for many purposes, including increasing the valency of protein binding sites.

15

The present invention also provides both full-length and mature forms (for example, without a signal sequence or precursor sequence) of the disclosed proteins. The protein coding sequence is identified in the sequence listing by translation of the disclosed nucleotide sequences. The mature form of such protein may be obtained by expression of a full-length polynucleotide in a suitable mammalian cell or other host cell. The sequence of the mature form of the protein is also determinable from the amino acid sequence of the full-length form. Where

20

25 proteins of the present invention are membrane bound, soluble forms of the proteins are also provided. In such forms, part or all of the regions causing the proteins to be membrane bound are deleted so that the proteins are fully secreted from the cell in which they are expressed.

Protein compositions of the present invention may further comprise an acceptable carrier, such as a hydrophilic, *e.g.*, pharmaceutically acceptable, carrier.

30 The present invention further provides isolated polypeptides encoded by the nucleic acid fragments of the present invention or by degenerate variants of the nucleic acid fragments of the present invention. By "degenerate variant" is intended nucleotide fragments which differ from a nucleic acid fragment of the present invention (*e.g.*, an ORF) by nucleotide sequence but, due to the degeneracy of the genetic code, encode an identical polypeptide sequence. Preferred nucleic acid fragments of the present invention are the ORFs that encode proteins.

35

A variety of methodologies known in the art can be utilized to obtain any one of the isolated polypeptides or proteins of the present invention. At the simplest level, the amino acid sequence can be synthesized using commercially available peptide synthesizers. The synthetically-constructed protein sequences, by virtue of sharing primary, secondary or tertiary structural and/or conformational characteristics with proteins may possess biological properties in common therewith, including protein activity. This technique is particularly useful in producing small peptides and fragments of larger polypeptides. Fragments are useful, for example, in generating antibodies against the native polypeptide. Thus, they may be employed as biologically active or immunological substitutes for natural, purified proteins in screening of therapeutic compounds and in immunological processes for the development of antibodies.

The polypeptides and proteins of the present invention can alternatively be purified from cells which have been altered to express the desired polypeptide or protein. As used herein, a cell is said to be altered to express a desired polypeptide or protein when the cell, through genetic manipulation, is made to produce a polypeptide or protein which it normally does not produce or which the cell normally produces at a lower level. One skilled in the art can readily adapt procedures for introducing and expressing either recombinant or synthetic sequences into eukaryotic or prokaryotic cells in order to generate a cell which produces one of the polypeptides or proteins of the present invention.

The invention also relates to methods for producing a polypeptide comprising growing a culture of host cells of the invention in a suitable culture medium, and purifying the protein from the cells or the culture in which the cells are grown. For example, the methods of the invention include a process for producing a polypeptide in which a host cell containing a suitable expression vector that includes a polynucleotide of the invention is cultured under conditions that allow expression of the encoded polypeptide. The polypeptide can be recovered from the culture, conveniently from the culture medium, or from a lysate prepared from the host cells and further purified. Preferred embodiments include those in which the protein produced by such process is a full length or mature form of the protein.

In an alternative method, the polypeptide or protein is purified from bacterial cells which naturally produce the polypeptide or protein. One skilled in the art can readily follow known methods for isolating polypeptides and proteins in order to obtain one of the isolated polypeptides or proteins of the present invention. These include, but are not limited to, immunochromatography, HPLC, size-exclusion chromatography, ion-exchange chromatography, and immuno-affinity chromatography. See, *e.g.*, Scopes, *Protein Purification: Principles and Practice*, Springer-Verlag (1994); Sambrook, et al., in *Molecular Cloning: A Laboratory Manual*; Ausubel et al., *Current Protocols in Molecular Biology*. Polypeptide fragments that

retain biological/immunological activity include fragments comprising greater than about 100 amino acids, or greater than about 200 amino acids, and fragments that encode specific protein domains.

5 The purified polypeptides can be used in *in vitro* binding assays which are well known in the art to identify molecules which bind to the polypeptides. These molecules include but are not limited to, for *e.g.*, small molecules, molecules from combinatorial libraries, antibodies or other proteins. The molecules identified in the binding assay are then tested for antagonist or agonist activity in *in vivo* tissue culture or animal models that are well known in the art. In brief, the molecules are titrated into a plurality of cell cultures or animals and then tested for either  
10 cell/animal death or prolonged survival of the animal/cells.

In addition, the peptides of the invention or molecules capable of binding to the peptides may be complexed with toxins, *e.g.*, ricin or cholera, or with other compounds that are toxic to cells. The toxin-binding molecule complex is then targeted to a tumor or other cell by the specificity of the binding molecule for SEQ ID NO: 8052-16102.

15 The protein of the invention may also be expressed as a product of transgenic animals, *e.g.*, as a component of the milk of transgenic cows, goats, pigs, or sheep which are characterized by somatic or germ cells containing a nucleotide sequence encoding the protein.

The proteins provided herein also include proteins characterized by amino acid sequences similar to those of purified proteins but into which modification are naturally provided or  
20 deliberately engineered. For example, modifications in the peptide or DNA sequence can be made by those skilled in the art using known techniques. Modifications of interest in the protein sequences may include the alteration, substitution, replacement, insertion or deletion of a selected amino acid residue in the coding sequence. For example, one or more of the cysteine residues may be deleted or replaced with another amino acid to alter the conformation of the  
25 molecule. Techniques for such alteration, substitution, replacement, insertion or deletion are well known to those skilled in the art (see, *e.g.*, U.S. Pat. No. 4,518,584). Preferably, such alteration, substitution, replacement, insertion or deletion retains the desired activity of the protein. Regions of the protein that are important for the protein function can be determined by various methods known in the art including the alanine-scanning method which involved  
30 systematic substitution of single or strings of amino acids with alanine, followed by testing the resulting alanine-containing variant for biological activity. This type of analysis determines the importance of the substituted amino acid(s) in biological activity. Regions of the protein that are important for protein function may be determined by the eMATRIX program.

Other fragments and derivatives of the sequences of proteins which would be expected to  
35 retain protein activity in whole or in part and are useful for screening or other immunological

methodologies may also be easily made by those skilled in the art given the disclosures herein. Such modifications are encompassed by the present invention.

5 The protein may also be produced by operably linking the isolated polynucleotide of the invention to suitable control sequences in one or more insect expression vectors, and employing an insect expression system. Materials and methods for baculovirus/insect cell expression systems are commercially available in kit form from, *e.g.*, Invitrogen, San Diego, Calif., U.S.A. (the MaxBat™ kit), and such methods are well known in the art, as described in Summers and Smith, Texas Agricultural Experiment Station Bulletin No. 1555 (1987), incorporated herein by reference. As used herein, an insect cell capable of expressing a polynucleotide of the present  
10 invention is "transformed."

The protein of the invention may be prepared by culturing transformed host cells under culture conditions suitable to express the recombinant protein. The resulting expressed protein may then be purified from such culture (*i.e.*, from culture medium or cell extracts) using known purification processes, such as gel filtration and ion exchange chromatography. The purification  
15 of the protein may also include an affinity column containing agents which will bind to the protein; one or more column steps over such affinity resins as concanavalin A-agarose, heparin-toyopearl™ or Cibacrom blue 3GA Sepharose™; one or more steps involving hydrophobic interaction chromatography using such resins as phenyl ether, butyl ether, or propyl ether; or immunoaffinity chromatography.

20 Alternatively, the protein of the invention may also be expressed in a form that will facilitate purification. For example, it may be expressed as a fusion protein, such as those of maltose binding protein (MBP), glutathione-S-transferase (GST) or thioredoxin (TRX), or as a His-tag. Kits for expression and purification of such fusion proteins are commercially available from New England BioLab (Beverly, Mass.), Pharmacia (Piscataway, N.J.) and Invitrogen,  
25 respectively. The protein can also be tagged with an epitope and subsequently purified by using a specific antibody directed to such epitope. One such epitope ("FLAG®") is commercially available from Kodak (New Haven, Conn.).

Finally, one or more reverse-phase high performance liquid chromatography (RP- HPLC) steps employing hydrophobic RP-HPLC media, *e.g.*, silica gel having pendant methyl or other  
30 aliphatic groups, can be employed to further purify the protein. Some or all of the foregoing purification steps, in various combinations, can also be employed to provide a substantially homogeneous isolated recombinant protein. The protein thus purified is substantially free of other mammalian proteins and is defined in accordance with the present invention as an "isolated protein."

The polypeptides of the invention include analogs (variants). This embraces fragments, as well as peptides in which one or more amino acids has been deleted, inserted, or substituted. Also, analogs of the polypeptides of the invention embrace fusions of the polypeptides or modifications of the polypeptides of the invention, wherein the polypeptide or analog is fused to another moiety or moieties, *e.g.*, targeting moiety or another therapeutic agent. Such analogs may exhibit improved properties such as activity and/or stability. Examples of moieties which may be fused to the polypeptide or an analog include, for example, targeting moieties which provide for the delivery of polypeptide to pancreatic cells, *e.g.*, antibodies to pancreatic cells, antibodies to immune cells such as T-cells, monocytes, dendritic cells, granulocytes, etc., as well as receptor and ligands expressed on pancreatic or immune cells. Other moieties which may be fused to the polypeptide include therapeutic agents which are used for treatment, for example, immunosuppressive drugs such as cyclosporin, SK506, azathioprine, CD3 antibodies and steroids. Also, polypeptides may be fused to immune modulators, and other cytokines such as alpha or beta interferon.

#### 4.6.1 DETERMINING POLYPEPTIDE AND POLYNUCLEOTIDE IDENTITY AND SIMILARITY

Preferred identity and/or similarity are designed to give the largest match between the sequences tested. Methods to determine identity and similarity are codified in computer programs including, but are not limited to, the GCG program package, including GAP (Devereux, J., et al., *Nucleic Acids Research* 12(1):387 (1984); Genetics Computer Group, University of Wisconsin, Madison, WI), BLASTP, BLASTN, BLASTX, FASTA (Altschul, S.F. et al., *J. Molec. Biol.* 215:403-410 (1990), PSI-BLAST (Altschul S.F. et al., *Nucleic Acids Res.* vol. 25, pp. 3389-3402, herein incorporated by reference), eMatrix software (Wu et al., *J. Comp. Biol.*, Vol. 6, pp. 219-235 (1999), herein incorporated by reference), eMotif software (Nevill-Manning et al, *ISMB-97*, Vol. 4, pp. 202-209, herein incorporated by reference), pFam software (Sonnhammer et al., *Nucleic Acids Res.*, Vol. 26(1), pp. 320-322 (1998), herein incorporated by reference) and the Kyte-Doolittle hydrophobicity prediction algorithm (*J. Mol Biol*, 157, pp. 105-31 (1982), incorporated herein by reference). The BLAST programs are publicly available from the National Center for Biotechnology Information (NCBI) and other sources (BLAST Manual, Altschul, S., et al. NCB NLM NIH Bethesda, MD 20894; Altschul, S., et al., *J. Mol. Biol.* 215:403-410 (1990).

#### 4.7 CHIMERIC AND FUSION PROTEINS

The invention also provides chimeric or fusion proteins. As used herein, a "chimeric protein" or "fusion protein" comprises a polypeptide of the invention operatively linked to

another polypeptide. Within a fusion protein the polypeptide according to the invention can correspond to all or a portion of a protein according to the invention. In one embodiment, a fusion protein comprises at least one biologically active portion of a protein according to the invention. In another embodiment, a fusion protein comprises at least two biologically active portions of a protein according to the invention. Within the fusion protein, the term "operatively linked" is intended to indicate that the polypeptide according to the invention and the other polypeptide are fused in-frame to each other. The polypeptide can be fused to the N-terminus or C-terminus.

For example, in one embodiment a fusion protein comprises a polypeptide according to the invention operably linked to the extracellular domain of a second protein.

In another embodiment, the fusion protein is a GST-fusion protein in which the polypeptide sequences of the invention are fused to the C-terminus of the GST (*i.e.*, glutathione S-transferase) sequences.

In another embodiment, the fusion protein is an immunoglobulin fusion protein in which the polypeptide sequences according to the invention comprises one or more domains are fused to sequences derived from a member of the immunoglobulin protein family. The immunoglobulin fusion proteins of the invention can be incorporated into pharmaceutical compositions and administered to a subject to inhibit an interaction between a ligand and a protein of the invention on the surface of a cell, to thereby suppress signal transduction *in vivo*. The immunoglobulin fusion proteins can be used to affect the bioavailability of a cognate ligand. Inhibition of the ligand/protein interaction may be useful therapeutically for both the treatment of proliferative and differentiative disorders, *e.g.*, cancer as well as modulating (*e.g.*, promoting or inhibiting) cell survival. Moreover, the immunoglobulin fusion proteins of the invention can be used as immunogens to produce antibodies in a subject, to purify ligands, and in screening assays to identify molecules that inhibit the interaction of a polypeptide of the invention with a ligand.

A chimeric or fusion protein of the invention can be produced by standard recombinant DNA techniques. For example, DNA fragments coding for the different polypeptide sequences are ligated together in-frame in accordance with conventional techniques, *e.g.*, by employing blunt-ended or stagger-ended termini for ligation, restriction enzyme digestion to provide for appropriate termini, filling-in of cohesive ends as appropriate, alkaline phosphatase treatment to avoid undesirable joining, and enzymatic ligation. In another embodiment, the fusion gene can be synthesized by conventional techniques including automated DNA synthesizers. Alternatively, PCR amplification of gene fragments can be carried out using anchor primers that give rise to complementary overhangs between two consecutive gene fragments that can subsequently be annealed and reamplified to generate a chimeric gene sequence (see, for



example, Ausubel et al. (eds.) CURRENT PROTOCOLS IN MOLECULAR BIOLOGY, John Wiley & Sons, 1992). Moreover, many expression vectors are commercially available that already encode a fusion moiety (e.g., a GST polypeptide). A nucleic acid encoding a polypeptide of the invention can be cloned into such an expression vector such that the fusion moiety is linked in-frame to the protein of the invention.

#### 4.8 GENE THERAPY

Mutations in the polynucleotides of the invention gene may result in loss of normal function of the encoded protein. The invention thus provides gene therapy to restore normal activity of the polypeptides of the invention; or to treat disease states involving polypeptides of the invention. Delivery of a functional gene encoding polypeptides of the invention to appropriate cells is effected *ex vivo*, *in situ*, or *in vivo* by use of vectors, and more particularly viral vectors (e.g., adenovirus, adeno-associated virus, or a retrovirus), or *ex vivo* by use of physical DNA transfer methods (e.g., liposomes or chemical treatments). See, for example, Anderson, Nature, supplement to vol. 392, no. 6679, pp.25-20 (1998). For additional reviews of gene therapy technology see Friedmann, Science, 244: 1275-1281 (1989); Verma, Scientific American: 68-84 (1990); and Miller, Nature, 357: 455-460 (1992). Introduction of any one of the nucleotides of the present invention or a gene encoding the polypeptides of the present invention can also be accomplished with extrachromosomal substrates (transient expression) or artificial chromosomes (stable expression). Cells may also be cultured *ex vivo* in the presence of proteins of the present invention in order to proliferate or to produce a desired effect on or activity in such cells. Treated cells can then be introduced *in vivo* for therapeutic purposes. Alternatively, it is contemplated that in other human disease states, preventing the expression of or inhibiting the activity of polypeptides of the invention will be useful in treating the disease states. It is contemplated that antisense therapy or gene therapy could be applied to negatively regulate the expression of polypeptides of the invention.

Other methods inhibiting expression of a protein include the introduction of antisense molecules to the nucleic acids of the present invention, their complements, or their translated RNA sequences, by methods known in the art. Further, the polypeptides of the present invention can be inhibited by using targeted deletion methods, or the insertion of a negative regulatory element such as a silencer, which is tissue specific.

The present invention still further provides cells genetically engineered *in vivo* to express the polynucleotides of the invention, wherein such polynucleotides are in operative association with a regulatory sequence heterologous to the host cell which drives expression of the polynucleotides in

the cell. These methods can be used to increase or decrease the expression of the polynucleotides of the present invention.

Knowledge of DNA sequences provided by the invention allows for modification of cells to permit, increase, or decrease, expression of endogenous polypeptide. Cells can be modified (*e.g.*,  
5 by homologous recombination) to provide increased polypeptide expression by replacing, in whole or in part, the naturally occurring promoter with all or part of a heterologous promoter so that the cells express the protein at higher levels. The heterologous promoter is inserted in such a manner that it is operatively linked to the desired protein encoding sequences. See, for example, PCT International Publication No. WO 94/12650, PCT International Publication No. WO 92/20808, and  
10 PCT International Publication No. WO 91/09955. It is also contemplated that, in addition to heterologous promoter DNA, amplifiable marker DNA (*e.g.*, *ada*, *dhfr*, and the multifunctional CAD gene which encodes carbamyl phosphate synthase, aspartate transcarbamylase, and dihydroorotase) and/or intron DNA may be inserted along with the heterologous promoter DNA. If linked to the desired protein coding sequence, amplification of the marker DNA by standard  
15 selection methods results in co-amplification of the desired protein coding sequences in the cells.

In another embodiment of the present invention, cells and tissues may be engineered to express an endogenous gene comprising the polynucleotides of the invention under the control of inducible regulatory elements, in which case the regulatory sequences of the endogenous gene may be replaced by homologous recombination. As described herein, gene targeting can be used to  
20 replace a gene's existing regulatory region with a regulatory sequence isolated from a different gene or a novel regulatory sequence synthesized by genetic engineering methods. Such regulatory sequences may be comprised of promoters, enhancers, scaffold-attachment regions, negative regulatory elements, transcriptional initiation sites, regulatory protein binding sites or combinations of said sequences. Alternatively, sequences which affect the structure or stability of the RNA or  
25 protein produced may be replaced, removed, added, or otherwise modified by targeting. These sequences include polyadenylation signals, mRNA stability elements, splice sites, leader sequences for enhancing or modifying transport or secretion properties of the protein, or other sequences which alter or improve the function or stability of protein or RNA molecules.

The targeting event may be a simple insertion of the regulatory sequence, placing the gene  
30 under the control of the new regulatory sequence, *e.g.*, inserting a new promoter or enhancer or both upstream of a gene. Alternatively, the targeting event may be a simple deletion of a regulatory element, such as the deletion of a tissue-specific negative regulatory element. Alternatively, the targeting event may replace an existing element; for example, a tissue-specific enhancer can be replaced by an enhancer that has broader or different cell-type specificity than the naturally  
35 occurring elements. Here, the naturally occurring sequences are deleted and new sequences are

added. In all cases, the identification of the targeting event may be facilitated by the use of one or more selectable marker genes that are contiguous with the targeting DNA, allowing for the selection of cells in which the exogenous DNA has integrated into the cell genome. The identification of the targeting event may also be facilitated by the use of one or more marker genes exhibiting the property of negative selection, such that the negatively selectable marker is linked to the exogenous DNA, but configured such that the negatively selectable marker flanks the targeting sequence, and such that a correct homologous recombination event with sequences in the host cell genome does not result in the stable integration of the negatively selectable marker. Markers useful for this purpose include the Herpes Simplex Virus thymidine kinase (TK) gene or the bacterial xanthine-guanine phosphoribosyl-transferase (gpt) gene.

The gene targeting or gene activation techniques which can be used in accordance with this aspect of the invention are more particularly described in U.S. Patent No. 5,272,071 to Chappel; U.S. Patent No. 5,578,461 to Sherwin et al.; International Application No. PCT/US92/09627 (WO93/09222) by Selden et al.; and International Application No. PCT/US90/06436 (WO91/06667) by Skoultchi et al., each of which is incorporated by reference herein in its entirety.

#### 4.9 TRANSGENIC ANIMALS

In preferred methods to determine biological functions of the polypeptides of the invention in vivo, one or more genes provided by the invention are either over expressed or inactivated in the germ line of animals using homologous recombination [Capecchi, Science 244:1288-1292 (1989)]. Animals in which the gene is over expressed, under the regulatory control of exogenous or endogenous promoter elements, are known as transgenic animals. Animals in which an endogenous gene has been inactivated by homologous recombination are referred to as "knockout" animals. Knockout animals, preferably non-human mammals, can be prepared as described in U.S. Patent No. 5,557,032, incorporated herein by reference. Transgenic animals are useful to determine the roles polypeptides of the invention play in biological processes, and preferably in disease states. Transgenic animals are useful as model systems to identify compounds that modulate lipid metabolism. Transgenic animals, preferably non-human mammals, are produced using methods as described in U.S. Patent No 5,489,743 and PCT Publication No. WO94/28122, incorporated herein by reference.

Transgenic animals can be prepared wherein all or part of a promoter of the polynucleotides of the invention is either activated or inactivated to alter the level of expression of the polypeptides of the invention. Inactivation can be carried out using homologous recombination methods described above. Activation can be achieved by supplementing or even replacing the homologous promoter to provide for increased protein expression. The

homologous promoter can be supplemented by insertion of one or more heterologous enhancer elements known to confer promoter activation in a particular tissue.

The polynucleotides of the present invention also make possible the development, through, *e.g.*, homologous recombination or knock out strategies, of animals that fail to express polypeptides of the invention or that express a variant polypeptide. Such animals are useful as models for studying the *in vivo* activities of polypeptide as well as for studying modulators of the polypeptides of the invention.

In preferred methods to determine biological functions of the polypeptides of the invention *in vivo*, one or more genes provided by the invention are either over expressed or inactivated in the germ line of animals using homologous recombination [Capecchi, Science 244:1288-1292 (1989)]. Animals in which the gene is over expressed, under the regulatory control of exogenous or endogenous promoter elements, are known as transgenic animals. Animals in which an endogenous gene has been inactivated by homologous recombination are referred to as "knockout" animals. Knockout animals, preferably non-human mammals, can be prepared as described in U.S. Patent No. 5,557,032, incorporated herein by reference. Transgenic animals are useful to determine the roles polypeptides of the invention play in biological processes, and preferably in disease states. Transgenic animals are useful as model systems to identify compounds that modulate lipid metabolism. Transgenic animals, preferably non-human mammals, are produced using methods as described in U.S. Patent No 5,489,743 and PCT Publication No. WO94/28122, incorporated herein by reference.

Transgenic animals can be prepared wherein all or part of the polynucleotides of the invention promoter is either activated or inactivated to alter the level of expression of the polypeptides of the invention. Inactivation can be carried out using homologous recombination methods described above. Activation can be achieved by supplementing or even replacing the homologous promoter to provide for increased protein expression. The homologous promoter can be supplemented by insertion of one or more heterologous enhancer elements known to confer promoter activation in a particular tissue.

#### 4.10 USES AND BIOLOGICAL ACTIVITY

The polynucleotides and proteins of the present invention are expected to exhibit one or more of the uses or biological activities (including those associated with assays cited herein) identified herein. Uses or activities described for proteins of the present invention may be provided by administration or use of such proteins or of polynucleotides encoding such proteins (such as, for example, in gene therapies or vectors suitable for introduction of DNA). The mechanism underlying the particular condition or pathology will dictate whether the

polypeptides of the invention, the polynucleotides of the invention or modulators (activators or inhibitors) thereof would be beneficial to the subject in need of treatment. Thus, "therapeutic compositions of the invention" include compositions comprising isolated polynucleotides (including recombinant DNA molecules, cloned genes and degenerate variants thereof) or polypeptides of the invention (including full length protein, mature protein and truncations or domains thereof), or compounds and other substances that modulate the overall activity of the target gene products, either at the level of target gene/protein expression or target protein activity. Such modulators include polypeptides, analogs, (variants), including fragments and fusion proteins, antibodies and other binding proteins; chemical compounds that directly or indirectly activate or inhibit the polypeptides of the invention (identified, *e.g.*, via drug screening assays as described herein); antisense polynucleotides and polynucleotides suitable for triple helix formation; and in particular antibodies or other binding partners that specifically recognize one or more epitopes of the polypeptides of the invention.

The polypeptides of the present invention may likewise be involved in cellular activation or in one of the other physiological pathways described herein.

#### 4.10.1 RESEARCH USES AND UTILITIES

The polynucleotides provided by the present invention can be used by the research community for various purposes. The polynucleotides can be used to express recombinant protein for analysis, characterization or therapeutic use; as markers for tissues in which the corresponding protein is preferentially expressed (either constitutively or at a particular stage of tissue differentiation or development or in disease states); as molecular weight markers on gels; as chromosome markers or tags (when labeled) to identify chromosomes or to map related gene positions; to compare with endogenous DNA sequences in patients to identify potential genetic disorders; as probes to hybridize and thus discover novel, related DNA sequences; as a source of information to derive PCR primers for genetic fingerprinting; as a probe to "subtract-out" known sequences in the process of discovering other novel polynucleotides; for selecting and making oligomers for attachment to a "gene chip" or other support, including for examination of expression patterns; to raise anti-protein antibodies using DNA immunization techniques; and as an antigen to raise anti-DNA antibodies or elicit another immune response. Where the polynucleotide encodes a protein which binds or potentially binds to another protein (such as, for example, in a receptor-ligand interaction), the polynucleotide can also be used in interaction trap assays (such as, for example, that described in Gyuris et al., Cell 75:791-803 (1993)) to identify polynucleotides encoding the other protein with which binding occurs or to identify inhibitors of the binding interaction.

The polypeptides provided by the present invention can similarly be used in assays to determine biological activity, including in a panel of multiple proteins for high-throughput screening; to raise antibodies or to elicit another immune response; as a reagent (including the labeled reagent) in assays designed to quantitatively determine levels of the protein (or its receptor) in biological fluids; as markers for tissues in which the corresponding polypeptide is preferentially expressed (either constitutively or at a particular stage of tissue differentiation or development or in a disease state); and, of course, to isolate correlative receptors or ligands. Proteins involved in these binding interactions can also be used to screen for peptide or small molecule inhibitors or agonists of the binding interaction.

Any or all of these research utilities are capable of being developed into reagent grade or kit format for commercialization as research products.

Methods for performing the uses listed above are well known to those skilled in the art. References disclosing such methods include without limitation "Molecular Cloning: A Laboratory Manual", 2d ed., Cold Spring Harbor Laboratory Press, Sambrook, J., E. F. Fritsch and T. Maniatis eds., 1989, and "Methods in Enzymology: Guide to Molecular Cloning Techniques", Academic Press, Berger, S. L. and A. R. Kimmel eds., 1987.

#### 4.10.2 NUTRITIONAL USES

Polynucleotides and polypeptides of the present invention can also be used as nutritional sources or supplements. Such uses include without limitation use as a protein or amino acid supplement, use as a carbon source, use as a nitrogen source and use as a source of carbohydrate. In such cases the polypeptide or polynucleotide of the invention can be added to the feed of a particular organism or can be administered as a separate solid or liquid preparation, such as in the form of powder, pills, solutions, suspensions or capsules. In the case of microorganisms, the polypeptide or polynucleotide of the invention can be added to the medium in or on which the microorganism is cultured.

#### 4.10.3 CYTOKINE AND CELL PROLIFERATION/DIFFERENTIATION ACTIVITY

A polypeptide of the present invention may exhibit activity relating to cytokine, cell proliferation (either inducing or inhibiting) or cell differentiation (either inducing or inhibiting) activity or may induce production of other cytokines in certain cell populations. A polynucleotide of the invention can encode a polypeptide exhibiting such attributes. Many protein factors discovered to date, including all known cytokines, have exhibited activity in one or more factor-dependent cell proliferation assays, and hence the assays serve as a convenient

confirmation of cytokine activity. The activity of therapeutic compositions of the present invention is evidenced by any one of a number of routine factor dependent cell proliferation assays for cell lines including, without limitation, 32D, DA2, DA1G, T10, B9, B9/11, BaF3, MC9/G, M+(preB M+), 2E8, RB5, DA1, 123, T1165, HT2, CTLL2, TF-1, Mo7e, CMK,

- 5 HUVEC, and Caco. Therapeutic compositions of the invention can be used in the following:

Assays for T-cell or thymocyte proliferation include without limitation those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 3, *In Vitro* assays for Mouse Lymphocyte Function 3.1-3.19; Chapter 7, Immunologic studies in  
10 Humans); Takai et al., J. Immunol. 137:3494-3500, 1986; Bertagnolli et al., J. Immunol. 145:1706-1712, 1990; Bertagnolli et al., Cellular Immunology 133:327-341, 1991; Bertagnolli, et al., I. Immunol. 149:3778-3783, 1992; Bowman et al., I. Immunol. 152:1756-1761, 1994.

Assays for cytokine production and/or proliferation of spleen cells, lymph node cells or thymocytes include, without limitation, those described in: Polyclonal T cell stimulation,  
15 Kruisbeek, A. M. and Shevach, E. M. In Current Protocols in Immunology. J. E. e.a. Coligan eds. Vol 1 pp. 3.12.1-3.12.14, John Wiley and Sons, Toronto. 1994; and Measurement of mouse and human interleukin- $\gamma$ , Schreiber, R. D. In Current Protocols in Immunology. J. E. e.a. Coligan eds. Vol 1 pp. 6.8.1-6.8.8, John Wiley and Sons, Toronto. 1994.

Assays for proliferation and differentiation of hematopoietic and lymphopoietic cells  
20 include, without limitation, those described in: Measurement of Human and Murine Interleukin 2 and Interleukin 4, Bottomly, K., Davis, L. S. and Lipsky, P. E. In Current Protocols in Immunology. J. E. e.a. Coligan eds. Vol 1 pp. 6.3.1-6.3.12, John Wiley and Sons, Toronto. 1991; deVries et al., J. Exp. Med. 173:1205-1211, 1991; Moreau et al., Nature 336:690-692, 1988; Greenberger et al., Proc. Natl. Acad. Sci. U.S.A. 80:2931-2938, 1983; Measurement of mouse  
25 and human interleukin 6--Nordan, R. In Current Protocols in Immunology. J. E. Coligan eds. Vol 1 pp. 6.6.1-6.6.5, John Wiley and Sons, Toronto. 1991; Smith et al., Proc. Natl. Acad. Sci. U.S.A. 83:1857-1861, 1986; Measurement of human Interleukin 11--Bennett, F., Giannotti, J., Clark, S. C. and Turner, K. J. In Current Protocols in Immunology. J. E. Coligan eds. Vol 1 pp. 6.15.1  
30 9--Ciarletta, A., Giannotti, J., Clark, S. C. and Turner, K. J. In Current Protocols in Immunology. J. E. Coligan eds. Vol 1 pp. 6.13.1, John Wiley and Sons, Toronto. 1991.

Assays for T-cell clone responses to antigens (which will identify, among others, proteins that affect APC-T cell interactions as well as direct T-cell effects by measuring proliferation and cytokine production) include, without limitation, those described in: Current Protocols in  
35 Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W Strober,

- Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 3, *In Vitro* assays for Mouse Lymphocyte Function; Chapter 6, Cytokines and their cellular receptors; Chapter 7, Immunologic studies in Humans); Weinberger et al., Proc. Natl. Acad. Sci. USA 77:6091-6095, 1980; Weinberger et al., Eur. J. Immun. 11:405-411, 1981; Takai et al., J. Immunol. 137:3494-3500, 1986; Takai et al., J. Immunol. 140:508-512, 1988.

#### 4.10.4 STEM CELL GROWTH FACTOR ACTIVITY

A polypeptide of the present invention may exhibit stem cell growth factor activity and be involved in the proliferation, differentiation and survival of pluripotent and totipotent stem cells including primordial germ cells, embryonic stem cells, hematopoietic stem cells and/or germ line stem cells. Administration of the polypeptide of the invention to stem cells *in vivo* or *ex vivo* is expected to maintain and expand cell populations in a totipotential or pluripotential state which would be useful for re-engineering damaged or diseased tissues, transplantation, manufacture of bio-pharmaceuticals and the development of bio-sensors. The ability to produce large quantities of human cells has important working applications for the production of human proteins which currently must be obtained from non-human sources or donors, implantation of cells to treat diseases such as Parkinson's, Alzheimer's and other neurodegenerative diseases; tissues for grafting such as bone marrow, skin, cartilage, tendons, bone, muscle (including cardiac muscle), blood vessels, cornea, neural cells, gastrointestinal cells and others; and organs for transplantation such as kidney, liver, pancreas (including islet cells), heart and lung.

It is contemplated that multiple different exogenous growth factors and/or cytokines may be administered in combination with the polypeptide of the invention to achieve the desired effect, including any of the growth factors listed herein, other stem cell maintenance factors, and specifically including stem cell factor (SCF), leukemia inhibitory factor (LIF), Flt-3 ligand (Flt-3L), any of the interleukins, recombinant soluble IL-6 receptor fused to IL-6, macrophage inflammatory protein 1-alpha (MIP-1-alpha), G-CSF, GM-CSF, thrombopoietin (TPO), platelet factor 4 (PF-4), platelet-derived growth factor (PDGF), neural growth factors and basic fibroblast growth factor (bFGF).

Since totipotent stem cells can give rise to virtually any mature cell type, expansion of these cells in culture will facilitate the production of large quantities of mature cells. Techniques for culturing stem cells are known in the art and administration of polypeptides of the invention, optionally with other growth factors and/or cytokines, is expected to enhance the survival and proliferation of the stem cell populations. This can be accomplished by direct administration of the polypeptide of the invention to the culture medium. Alternatively, stroma cells transfected with a polynucleotide that encodes for the polypeptide of the invention can be used as a feeder



layer for the stem cell populations in culture or in vivo. Stromal support cells for feeder layers may include embryonic bone marrow fibroblasts, bone marrow stromal cells, fetal liver cells, or cultured embryonic fibroblasts (see U.S. Patent No. 5,690,926).

Stem cells themselves can be transfected with a polynucleotide of the invention to induce  
5 autocrine expression of the polypeptide of the invention. This will allow for generation of undifferentiated totipotent/pluripotent stem cell lines that are useful as is or that can then be differentiated into the desired mature cell types. These stable cell lines can also serve as a source of undifferentiated totipotent/pluripotent mRNA to create cDNA libraries and templates for polymerase chain reaction experiments. These studies would allow for the isolation and  
10 identification of differentially expressed genes in stem cell populations that regulate stem cell proliferation and/or maintenance.

Expansion and maintenance of totipotent stem cell populations will be useful in the treatment of many pathological conditions. For example, polypeptides of the present invention may be used to manipulate stem cells in culture to give rise to neuroepithelial cells that can be  
15 used to augment or replace cells damaged by illness, autoimmune disease, accidental damage or genetic disorders. The polypeptide of the invention may be useful for inducing the proliferation of neural cells and for the regeneration of nerve and brain tissue, *i.e.* for the treatment of central and peripheral nervous system diseases and neuropathies, as well as mechanical and traumatic disorders which involve degeneration, death or trauma to neural cells or nerve tissue. In  
20 addition, the expanded stem cell populations can also be genetically altered for gene therapy purposes and to decrease host rejection of replacement tissues after grafting or implantation.

Expression of the polypeptide of the invention and its effect on stem cells can also be manipulated to achieve controlled differentiation of the stem cells into more differentiated cell types. A broadly applicable method of obtaining pure populations of a specific differentiated  
25 cell type from undifferentiated stem cell populations involves the use of a cell-type specific promoter driving a selectable marker. The selectable marker allows only cells of the desired type to survive. For example, stem cells can be induced to differentiate into cardiomyocytes (Wobus et al., *Differentiation*, 48: 173-182, (1991); Klug et al., *J. Clin. Invest.*, 98(1): 216-224, (1998)) or skeletal muscle cells (Browder, L. W. In: *Principles of Tissue Engineering* eds. Lanza et al.,  
30 Academic Press (1997)). Alternatively, directed differentiation of stem cells can be accomplished by culturing the stem cells in the presence of a differentiation factor such as retinoic acid and an antagonist of the polypeptide of the invention which would inhibit the effects of endogenous stem cell factor activity and allow differentiation to proceed.

*In vitro* cultures of stem cells can be used to determine if the polypeptide of the invention  
35 exhibits stem cell growth factor activity. Stem cells are isolated from any one of various cell

sources (including hematopoietic stem cells and embryonic stem cells) and cultured on a feeder layer, as described by Thompson et al. Proc. Natl. Acad. Sci, U.S.A., 92: 7844-7848 (1995), in the presence of the polypeptide of the invention alone or in combination with other growth factors or cytokines. The ability of the polypeptide of the invention to induce stem cells proliferation is determined by colony formation on semi-solid support *e.g.* as described by Bernstein et al., Blood, 77: 2316-2321 (1991).

#### 4.10.5 HEMATOPOIESIS REGULATING ACTIVITY

A polypeptide of the present invention may be involved in regulation of hematopoiesis and, consequently, in the treatment of myeloid or lymphoid cell disorders. Even marginal biological activity in support of colony forming cells or of factor-dependent cell lines indicates involvement in regulating hematopoiesis, *e.g.* in supporting the growth and proliferation of erythroid progenitor cells alone or in combination with other cytokines, thereby indicating utility, for example, in treating various anemias or for use in conjunction with irradiation/chemotherapy to stimulate the production of erythroid precursors and/or erythroid cells; in supporting the growth and proliferation of myeloid cells such as granulocytes and monocytes/macrophages (*i.e.*, traditional CSF activity) useful, for example, in conjunction with chemotherapy to prevent or treat consequent myelo-suppression; in supporting the growth and proliferation of megakaryocytes and consequently of platelets thereby allowing prevention or treatment of various platelet disorders such as thrombocytopenia, and generally for use in place of or complimentary to platelet transfusions; and/or in supporting the growth and proliferation of hematopoietic stem cells which are capable of maturing to any and all of the above-mentioned hematopoietic cells and therefore find therapeutic utility in various stem cell disorders (such as those usually treated with transplantation, including, without limitation, aplastic anemia and paroxysmal nocturnal hemoglobinuria), as well as in repopulating the stem cell compartment post irradiation/chemotherapy, either *in-vivo* or *ex-vivo* (*i.e.*, in conjunction with bone marrow transplantation or with peripheral progenitor cell transplantation (homologous or heterologous)) as normal cells or genetically manipulated for gene therapy.

Therapeutic compositions of the invention can be used in the following:

Suitable assays for proliferation and differentiation of various hematopoietic lines are cited above.

Assays for embryonic stem cell differentiation (which will identify, among others, proteins that influence embryonic differentiation hematopoiesis) include, without limitation, those described in: Johansson et al. Cellular Biology 15:141-151, 1995; Keller et al., Molecular and Cellular Biology 13:473-486, 1993; McClanahan et al., Blood 81:2903-2915, 1993.

Assays for stem cell survival and differentiation (which will identify, among others, proteins that regulate lympho-hematopoiesis) include, without limitation, those described in: Methylcellulose colony forming assays, Freshney, M. G. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 265-268, Wiley-Liss, Inc., New York, N.Y. 1994; Hirayama et al., Proc. Natl. Acad. Sci. USA 89:5907-5911, 1992; Primitive hematopoietic colony forming cells with high proliferative potential, McNiece, I. K. and Briddell, R. A. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 23-39, Wiley-Liss, Inc., New York, N.Y. 1994; Neben et al., *Experimental Hematology* 22:353-359, 1994; Cobblestone area forming cell assay, Ploemacher, R. E. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 1-21, Wiley-Liss, Inc., New York, N.Y. 1994; Long term bone marrow cultures in the presence of stromal cells, Spooncer, E., Dexter, M. and Allen, T. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 163-179, Wiley-Liss, Inc., New York, N.Y. 1994; Long term culture initiating cell assay, Sutherland, H. J. In *Culture of Hematopoietic Cells*. R. I. Freshney, et al. eds. Vol pp. 139-162, Wiley-Liss, Inc., New York, N.Y. 1994.

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#### 4.10.6 TISSUE GROWTH ACTIVITY

A polypeptide of the present invention also may be involved in bone, cartilage, tendon, ligament and/or nerve tissue growth or regeneration, as well as in wound healing and tissue repair and replacement, and in healing of burns, incisions and ulcers.

20

A polypeptide of the present invention which induces cartilage and/or bone growth in circumstances where bone is not normally formed, has application in the healing of bone fractures and cartilage damage or defects in humans and other animals. Compositions of a polypeptide, antibody, binding partner, or other modulator of the invention may have prophylactic use in closed as well as open fracture reduction and also in the improved fixation of artificial joints. De novo bone formation induced by an osteogenic agent contributes to the repair of congenital, trauma induced, or oncologic resection induced craniofacial defects, and also is useful in cosmetic plastic surgery.

25

A polypeptide of this invention may also be involved in attracting bone-forming cells, stimulating growth of bone-forming cells, or inducing differentiation of progenitors of bone-forming cells. Treatment of osteoporosis, osteoarthritis, bone degenerative disorders, or periodontal disease, such as through stimulation of bone and/or cartilage repair or by blocking inflammation or processes of tissue destruction (collagenase activity, osteoclast activity, etc.) mediated by inflammatory processes may also be possible using the composition of the invention.

30

Another category of tissue regeneration activity that may involve the polypeptide of the present invention is tendon/ligament formation. Induction of tendon/ligament-like tissue or other tissue formation in circumstances where such tissue is not normally formed, has application in the healing of tendon or ligament tears, deformities and other tendon or ligament defects in humans and other animals. Such a preparation employing a tendon/ligament-like tissue inducing protein may have prophylactic use in preventing damage to tendon or ligament tissue, as well as use in the improved fixation of tendon or ligament to bone or other tissues, and in repairing defects to tendon or ligament tissue. De novo tendon/ligament-like tissue formation induced by a composition of the present invention contributes to the repair of congenital, trauma induced, or other tendon or ligament defects of other origin, and is also useful in cosmetic plastic surgery for attachment or repair of tendons or ligaments. The compositions of the present invention may provide environment to attract tendon- or ligament-forming cells, stimulate growth of tendon- or ligament-forming cells, induce differentiation of progenitors of tendon- or ligament-forming cells, or induce growth of tendon/ligament cells or progenitors *ex vivo* for return *in vivo* to effect tissue repair. The compositions of the invention may also be useful in the treatment of tendinitis, carpal tunnel syndrome and other tendon or ligament defects. The compositions may also include an appropriate matrix and/or sequestering agent as a carrier as is well known in the art.

The compositions of the present invention may also be useful for proliferation of neural cells and for regeneration of nerve and brain tissue, *i.e.* for the treatment of central and peripheral nervous system diseases and neuropathies, as well as mechanical and traumatic disorders, which involve degeneration, death or trauma to neural cells or nerve tissue. More specifically, a composition may be used in the treatment of diseases of the peripheral nervous system, such as peripheral nerve injuries, peripheral neuropathy and localized neuropathies, and central nervous system diseases, such as Alzheimer's, Parkinson's disease, Huntington's disease, amyotrophic lateral sclerosis, and Shy-Drager syndrome. Further conditions that may be treated in accordance with the present invention include mechanical and traumatic disorders, such as spinal cord disorders, head trauma and cerebrovascular diseases such as stroke. Peripheral neuropathies resulting from chemotherapy or other medical therapies may also be treatable using a composition of the invention.

Compositions of the invention may also be useful to promote better or faster closure of non-healing wounds, including without limitation pressure ulcers, ulcers associated with vascular insufficiency, surgical and traumatic wounds, and the like.

Compositions of the present invention may also be involved in the generation or regeneration of other tissues, such as organs (including, for example, pancreas, liver, intestine,

kidney, skin, endothelium), muscle (smooth, skeletal or cardiac) and vascular (including vascular endothelium) tissue, or for promoting the growth of cells comprising such tissues. Part of the desired effects may be by inhibition or modulation of fibrotic scarring may allow normal tissue to regenerate. A polypeptide of the present invention may also exhibit angiogenic activity.

5 A composition of the present invention may also be useful for gut protection or regeneration and treatment of lung or liver fibrosis, reperfusion injury in various tissues, and conditions resulting from systemic cytokine damage.

A composition of the present invention may also be useful for promoting or inhibiting differentiation of tissues described above from precursor tissues or cells; or for inhibiting the  
10 growth of tissues described above.

Therapeutic compositions of the invention can be used in the following:

Assays for tissue generation activity include, without limitation, those described in: International Patent Publication No. WO95/16035 (bone, cartilage, tendon); International Patent Publication No. WO95/05846 (nerve, neuronal); International Patent Publication No.  
15 WO91/07491 (skin, endothelium).

Assays for wound healing activity include, without limitation, those described in: Winter, Epidermal Wound Healing, pps. 71-112 (Maibach, H. I. and Rovee, D. T., eds.), Year Book Medical Publishers, Inc., Chicago, as modified by Eaglstein and Mertz, J. Invest. Dermatol 71:382-84 (1978).

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#### 4.10.7 IMMUNE STIMULATING OR SUPPRESSING ACTIVITY

A polypeptide of the present invention may also exhibit immune stimulating or immune suppressing activity, including without limitation the activities for which assays are described herein. A polynucleotide of the invention can encode a polypeptide exhibiting such activities. A  
25 protein may be useful in the treatment of various immune deficiencies and disorders (including severe combined immunodeficiency (SCID)), *e.g.*, in regulating (up or down) growth and proliferation of T and/or B lymphocytes, as well as effecting the cytolytic activity of NK cells and other cell populations. These immune deficiencies may be genetic or be caused by viral (*e.g.*, HIV) as well as bacterial or fungal infections, or may result from autoimmune disorders. More  
30 specifically, infectious diseases caused by viral, bacterial, fungal or other infection may be treatable using a protein of the present invention, including infections by HIV, hepatitis viruses, herpes viruses, mycobacteria, *Leishmania* spp., malaria spp. and various fungal infections such as candidiasis. Of course, in this regard, proteins of the present invention may also be useful where a boost to the immune system generally may be desirable, *i.e.*, in the treatment of cancer.

include, for example, connective tissue disease, multiple sclerosis, systemic lupus erythematosus, rheumatoid arthritis, autoimmune pulmonary inflammation, Guillain-Barre syndrome, autoimmune thyroiditis, insulin dependent diabetes mellitis, myasthenia gravis, graft-versus-host disease and autoimmune inflammatory eye disease. Such a protein (or antagonists thereof, including antibodies) of the present invention may also to be useful in the treatment of allergic reactions and conditions (*e.g.*, anaphylaxis, serum sickness, drug reactions, food allergies, insect venom allergies, mastocytosis, allergic rhinitis, hypersensitivity pneumonitis, urticaria, angioedema, eczema, atopic dermatitis, allergic contact dermatitis, erythema multiforme, Stevens-Johnson syndrome, allergic conjunctivitis, atopic keratoconjunctivitis, venereal keratoconjunctivitis, giant papillary conjunctivitis and contact allergies), such as asthma (particularly allergic asthma) or other respiratory problems. Other conditions, in which immune suppression is desired (including, for example, organ transplantation), may also be treatable using a protein (or antagonists thereof) of the present invention. The therapeutic effects of the polypeptides or antagonists thereof on allergic reactions can be evaluated by *in vivo* animals models such as the cumulative contact enhancement test (Lastbom et al., Toxicology 125: 59-66, 1998), skin prick test (Hoffmann et al., Allergy 54: 446-54, 1999), guinea pig skin sensitization test (Vohr et al., Arch. Toxicol. 73: 501-9), and murine local lymph node assay (Kimber et al., J. Toxicol. Environ. Health 53: 563-79).

Using the proteins of the invention it may also be possible to modulate immune responses, in a number of ways. Down regulation may be in the form of inhibiting or blocking an immune response already in progress or may involve preventing the induction of an immune response. The functions of activated T cells may be inhibited by suppressing T cell responses or by inducing specific tolerance in T cells, or both. Immunosuppression of T cell responses is generally an active, non-antigen-specific, process which requires continuous exposure of the T cells to the suppressive agent. Tolerance, which involves inducing non-responsiveness or anergy in T cells, is distinguishable from immunosuppression in that it is generally antigen-specific and persists after exposure to the tolerizing agent has ceased. Operationally, tolerance can be demonstrated by the lack of a T cell response upon reexposure to specific antigen in the absence of the tolerizing agent.

Down regulating or preventing one or more antigen functions (including without limitation B lymphocyte antigen functions (such as, for example, B7)), *e.g.*, preventing high level lymphokine synthesis by activated T cells, will be useful in situations of tissue, skin and organ transplantation and in graft-versus-host disease (GVHD). For example, blockage of T cell function should result in reduced tissue destruction in tissue transplantation. Typically, in tissue

transplants, rejection of the transplant is initiated through its recognition as foreign by T cells, followed by an immune reaction that destroys the transplant. The administration of a therapeutic composition of the invention may prevent cytokine synthesis by immune cells, such as T cells, and thus acts as an immunosuppressant. Moreover, a lack of costimulation may also be sufficient to anergize the T cells, thereby inducing tolerance in a subject. Induction of long-term tolerance by B lymphocyte antigen-blocking reagents may avoid the necessity of repeated administration of these blocking reagents. To achieve sufficient immunosuppression or tolerance in a subject, it may also be necessary to block the function of a combination of B lymphocyte antigens.

The efficacy of particular therapeutic compositions in preventing organ transplant rejection or GVHD can be assessed using animal models that are predictive of efficacy in humans. Examples of appropriate systems which can be used include allogeneic cardiac grafts in rats and xenogeneic pancreatic islet cell grafts in mice, both of which have been used to examine the immunosuppressive effects of CTLA4Ig fusion proteins in vivo as described in Lenschow et al., Science 257:789-792 (1992) and Turka et al., Proc. Natl. Acad. Sci USA, 89:11102-11105 (1992). In addition, murine models of GVHD (see Paul ed., Fundamental Immunology, Raven Press, New York, 1989, pp. 846-847) can be used to determine the effect of therapeutic compositions of the invention on the development of that disease.

Blocking antigen function may also be therapeutically useful for treating autoimmune diseases. Many autoimmune disorders are the result of inappropriate activation of T cells that are reactive against self-tissue and which promote the production of cytokines and autoantibodies involved in the pathology of the diseases. Preventing the activation of autoreactive T cells may reduce or eliminate disease symptoms. Administration of reagents which block stimulation of T cells can be used to inhibit T cell activation and prevent production of autoantibodies or T cell-derived cytokines which may be involved in the disease process. Additionally, blocking reagents may induce antigen-specific tolerance of autoreactive T cells which could lead to long-term relief from the disease. The efficacy of blocking reagents in preventing or alleviating autoimmune disorders can be determined using a number of well-characterized animal models of human autoimmune diseases. Examples include murine experimental autoimmune encephalitis, systemic lupus erythematosus in MRL/lpr/lpr mice or NZB hybrid mice, murine autoimmune collagen arthritis, diabetes mellitus in NOD mice and BB rats, and murine experimental myasthenia gravis (see Paul ed., Fundamental Immunology, Raven Press, New York, 1989, pp. 840-856).

Upregulation of an antigen function (e.g., a B lymphocyte antigen function), as a means of up regulating immune responses, may also be useful in therapy. Upregulation of immune

responses may be in the form of enhancing an existing immune response or eliciting an initial immune response. For example, enhancing an immune response may be useful in cases of viral infection, including systemic viral diseases such as influenza, the common cold, and encephalitis.

5           Alternatively, anti-viral immune responses may be enhanced in an infected patient by removing T cells from the patient, costimulating the T cells in vitro with viral antigen-pulsed APCs either expressing a peptide of the present invention or together with a stimulatory form of a soluble peptide of the present invention and reintroducing the in vitro activated T cells into the patient. Another method of enhancing anti-viral immune responses would be to isolate infected  
10 cells from a patient, transfect them with a nucleic acid encoding a protein of the present invention as described herein such that the cells express all or a portion of the protein on their surface, and reintroduce the transfected cells into the patient. The infected cells would now be capable of delivering a costimulatory signal to, and thereby activate, T cells in vivo.

          A polypeptide of the present invention may provide the necessary stimulation signal to T  
15 cells to induce a T cell mediated immune response against the transfected tumor cells. In addition, tumor cells which lack MHC class I or MHC class II molecules, or which fail to reexpress sufficient mounts of MHC class I or MHC class II molecules, can be transfected with nucleic acid encoding all or a portion of (*e.g.*, a cytoplasmic-domain truncated portion) of an MHC class I alpha chain protein and  $\beta_2$  microglobulin protein or an MHC class II alpha chain  
20 protein and an MHC class II beta chain protein to thereby express MHC class I or MHC class II proteins on the cell surface. Expression of the appropriate class I or class II MHC in conjunction with a peptide having the activity of a B lymphocyte antigen (*e.g.*, B7-1, B7-2, B7-3) induces a T cell mediated immune response against the transfected tumor cell. Optionally, a gene encoding an antisense construct which blocks expression of an MHC class II associated protein, such as  
25 the invariant chain, can also be cotransfected with a DNA encoding a peptide having the activity of a B lymphocyte antigen to promote presentation of tumor associated antigens and induce tumor specific immunity. Thus, the induction of a T cell mediated immune response in a human subject may be sufficient to overcome tumor-specific tolerance in the subject.

          The activity of a protein of the invention may, among other means, be measured by the  
30 following methods:

          Suitable assays for thymocyte or splenocyte cytotoxicity include, without limitation, those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 3, In Vitro assays for Mouse Lymphocyte Function 3.1-3.19;  
35 Chapter 7, Immunologic studies in Humans); Herrmann et al., Proc. Natl. Acad. Sci. USA



78:2488-2492, 1981; Herrmann et al., J. Immunol. 128:1968-1974, 1982; Handa et al., J. Immunol. 135:1564-1572, 1985; Takai et al., I. Immunol. 137:3494-3500, 1986; Takai et al., J. Immunol. 140:508-512, 1988; Bowman et al., J. Virology 61:1992-1998; Bertagnolli et al., Cellular Immunology 133:327-341, 1991; Brown et al., J. Immunol. 153:3079-3092, 1994.

- 5 Assays for T-cell-dependent immunoglobulin responses and isotype switching (which will identify, among others, proteins that modulate T-cell dependent antibody responses and that affect Th1/Th2 profiles) include, without limitation, those described in: Maliszewski, J. Immunol. 144:3028-3033, 1990; and Assays for B cell function: In vitro antibody production, Mond, J. J. and Brunswick, M. In Current Protocols in Immunology. J. E. e.a. Coligan eds. Vol 1  
10 pp. 3.8.1-3.8.16, John Wiley and Sons, Toronto. 1994.

- Mixed lymphocyte reaction (MLR) assays (which will identify, among others, proteins that generate predominantly Th1 and CTL responses) include, without limitation, those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 3,  
15 In Vitro assays for Mouse Lymphocyte Function 3.1-3.19; Chapter 7, Immunologic studies in Humans); Takai et al., J. Immunol. 137:3494-3500, 1986; Takai et al., J. Immunol. 140:508-512, 1988; Bertagnolli et al., J. Immunol. 149:3778-3783, 1992.

- Dendritic cell-dependent assays (which will identify, among others, proteins expressed by dendritic cells that activate naive T-cells) include, without limitation, those described in:  
20 Guery et al., J. Immunol. 134:536-544, 1995; Inaba et al., Journal of Experimental Medicine 173:549-559, 1991; Macatonia et al., Journal of Immunology 154:5071-5079, 1995; Porgador et al., Journal of Experimental Medicine 182:255-260, 1995; Nair et al., Journal of Virology 67:4062-4069, 1993; Huang et al., Science 264:961-965, 1994; Macatonia et al., Journal of Experimental Medicine 169:1255-1264, 1989; Bhardwaj et al., Journal of Clinical Investigation  
25 94:797-807, 1994; and Inaba et al., Journal of Experimental Medicine 172:631-640, 1990.

- Assays for lymphocyte survival/apoptosis (which will identify, among others, proteins that prevent apoptosis after superantigen induction and proteins that regulate lymphocyte homeostasis) include, without limitation, those described in: Darzynkiewicz et al., Cytometry 13:795-808, 1992; Gorczyca et al., Leukemia 7:659-670, 1993; Gorczyca et al., Cancer Research  
30 53:1945-1951, 1993; Itoh et al., Cell 66:233-243, 1991; Zacharchuk, Journal of Immunology 145:4037-4045, 1990; Zamai et al., Cytometry 14:891-897, 1993; Gorczyca et al., International Journal of Oncology 1:639-648, 1992.

Assays for proteins that influence early steps of T-cell commitment and development include, without limitation, those described in: Antica et al., Blood 84:111-117, 1994; Fine et

al., Cellular Immunology 155:111-122, 1994; Galy et al., Blood 85:2770-2778, 1995; Toki et al., Proc. Nat. Acad. Sci. USA 88:7548-7551, 1991.

#### 4.10.8 ACTIVIN/INHIBIN ACTIVITY

5 A polypeptide of the present invention may also exhibit activin- or inhibin-related activities. A polynucleotide of the invention may encode a polypeptide exhibiting such characteristics. Inhibins are characterized by their ability to inhibit the release of follicle stimulating hormone (FSH), while activins are characterized by their ability to stimulate the release of follicle stimulating hormone (FSH). Thus, a polypeptide of the present invention,  
10 alone or in heterodimers with a member of the inhibin family, may be useful as a contraceptive based on the ability of inhibins to decrease fertility in female mammals and decrease spermatogenesis in male mammals. Administration of sufficient amounts of other inhibins can induce infertility in these mammals. Alternatively, the polypeptide of the invention, as a homodimer or as a heterodimer with other protein subunits of the inhibin group, may be useful as  
15 a fertility inducing therapeutic, based upon the ability of activin molecules in stimulating FSH release from cells of the anterior pituitary. See, for example, U.S. Pat. No. 4,798,885. A polypeptide of the invention may also be useful for advancement of the onset of fertility in sexually immature mammals, so as to increase the lifetime reproductive performance of domestic animals such as, but not limited to, cows, sheep and pigs.

20 The activity of a polypeptide of the invention may, among other means, be measured by the following methods.

Assays for activin/inhibin activity include, without limitation, those described in: Vale et al., Endocrinology 91:562-572, 1972; Ling et al., Nature 321:779-782, 1986; Vale et al., Nature 321:776-779, 1986; Mason et al., Nature 318:659-663, 1985; Forage et al., Proc. Natl. Acad. Sci.  
25 USA 83:3091-3095, 1986.

#### 4.10.9 CHEMOTACTIC/CHEMOKINETIC ACTIVITY

A polypeptide of the present invention may be involved in chemotactic or chemokinetic activity for mammalian cells, including, for example, monocytes, fibroblasts, neutrophils,  
30 T-cells, mast cells, eosinophils, epithelial and/or endothelial cells. A polynucleotide of the invention can encode a polypeptide exhibiting such attributes. Chemotactic and chemokinetic receptor activation can be used to mobilize or attract a desired cell population to a desired site of action. Chemotactic or chemokinetic compositions (e.g. proteins, antibodies, binding partners, or modulators of the invention) provide particular advantages in treatment of wounds and other  
35 trauma to tissues, as well as in treatment of localized infections. For example, attraction of

lymphocytes, monocytes or neutrophils to tumors or sites of infection may result in improved immune responses against the tumor or infecting agent.

A protein or peptide has chemotactic activity for a particular cell population if it can stimulate, directly or indirectly, the directed orientation or movement of such cell population.

- 5 Preferably, the protein or peptide has the ability to directly stimulate directed movement of cells. Whether a particular protein has chemotactic activity for a population of cells can be readily determined by employing such protein or peptide in any known assay for cell chemotaxis.

Therapeutic compositions of the invention can be used in the following:

- 10 Assays for chemotactic activity (which will identify proteins that induce or prevent chemotaxis) consist of assays that measure the ability of a protein to induce the migration of cells across a membrane as well as the ability of a protein to induce the adhesion of one cell population to another cell population. Suitable assays for movement and adhesion include, without limitation, those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Marguiles, E. M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley-Interscience (Chapter 6.12, Measurement of alpha and beta Chemokines  
15 6.12.1-6.12.28; Taub et al. J. Clin. Invest. 95:1370-1376, 1995; Lind et al. APMIS 103:140-146, 1995; Muller et al Eur. J. Immunol. 25:1744-1748; Gruber et al. J. of Immunol. 152:5860-5867, 1994; Johnston et al. J. of Immunol. 153:1762-1768, 1994.

#### 20 4.10.10 HEMOSTATIC AND THROMBOLYTIC ACTIVITY

- A polypeptide of the invention may also be involved in hemostasis or thrombolysis or thrombosis. A polynucleotide of the invention can encode a polypeptide exhibiting such attributes. Compositions may be useful in treatment of various coagulation disorders (including hereditary disorders, such as hemophilias) or to enhance coagulation and other hemostatic events  
25 in treating wounds resulting from trauma, surgery or other causes. A composition of the invention may also be useful for dissolving or inhibiting formation of thromboses and for treatment and prevention of conditions resulting therefrom (such as, for example, infarction of cardiac and central nervous system vessels (*e.g.*, stroke).

Therapeutic compositions of the invention can be used in the following:

- 30 Assay for hemostatic and thrombolytic activity include, without limitation, those described in: Linet et al., J. Clin. Pharmacol. 26:131-140, 1986; Burdick et al., Thrombosis Res. 45:413-419, 1987; Humphrey et al., Fibrinolysis 5:71-79 (1991); Schaub, Prostaglandins 35:467-474, 1988.

#### 35 4.10.11 CANCER DIAGNOSIS AND THERAPY

Polypeptides of the invention may be involved in cancer cell generation, proliferation or metastasis. Detection of the presence or amount of polynucleotides or polypeptides of the invention may be useful for the diagnosis and/or prognosis of one or more types of cancer. For example, the presence or increased expression of a polynucleotide/polypeptide of the invention may indicate a hereditary risk of cancer, a precancerous condition, or an ongoing malignancy. Conversely, a defect in the gene or absence of the polypeptide may be associated with a cancer condition. Identification of single nucleotide polymorphisms associated with cancer or a predisposition to cancer may also be useful for diagnosis or prognosis.

Cancer treatments promote tumor regression by inhibiting tumor cell proliferation, inhibiting angiogenesis (growth of new blood vessels that is necessary to support tumor growth) and/or prohibiting metastasis by reducing tumor cell motility or invasiveness. Therapeutic compositions of the invention may be effective in adult and pediatric oncology including in solid phase tumors/malignancies, locally advanced tumors, human soft tissue sarcomas, metastatic cancer, including lymphatic metastases, blood cell malignancies including multiple myeloma, acute and chronic leukemias, and lymphomas, head and neck cancers including mouth cancer, larynx cancer and thyroid cancer, lung cancers including small cell carcinoma and non-small cell cancers, breast cancers including small cell carcinoma and ductal carcinoma, gastrointestinal cancers including esophageal cancer, stomach cancer, colon cancer, colorectal cancer and polyps associated with colorectal neoplasia, pancreatic cancers, liver cancer, urologic cancers including bladder cancer and prostate cancer, malignancies of the female genital tract including ovarian carcinoma, uterine (including endometrial) cancers, and solid tumor in the ovarian follicle, kidney cancers including renal cell carcinoma, brain cancers including intrinsic brain tumors, neuroblastoma, astrocytic brain tumors, gliomas, metastatic tumor cell invasion in the central nervous system, bone cancers including osteomas, skin cancers including malignant melanoma, tumor progression of human skin keratinocytes, squamous cell carcinoma, basal cell carcinoma, hemangiopericytoma and Kaposi's sarcoma.

Polypeptides, polynucleotides, or modulators of polypeptides of the invention (including inhibitors and stimulators of the biological activity of the polypeptide of the invention) may be administered to treat cancer. Therapeutic compositions can be administered in therapeutically effective dosages alone or in combination with adjuvant cancer therapy such as surgery, chemotherapy, radiotherapy, thermotherapy, and laser therapy, and may provide a beneficial effect, *e.g.* reducing tumor size, slowing rate of tumor growth, inhibiting metastasis, or otherwise improving overall clinical condition, without necessarily eradicating the cancer.

The composition can also be administered in therapeutically effective amounts as a portion of an anti-cancer cocktail. An anti-cancer cocktail is a mixture of the polypeptide or

modulator of the invention with one or more anti-cancer drugs in addition to a pharmaceutically acceptable carrier for delivery. The use of anti-cancer cocktails as a cancer treatment is routine. Anti-cancer drugs that are well known in the art and can be used as a treatment in combination with the polypeptide or modulator of the invention include: Actinomycin D,

5 Aminoglutethimide, Asparaginase, Bleomycin, Busulfan, Carboplatin, Carmustine, Chlorambucil, Cisplatin (cis-DDP), Cyclophosphamide, Cytarabine HCl (Cytosine arabinoside), Dacarbazine, Dactinomycin, Daunorubicin HCl, Doxorubicin HCl, Estramustine phosphate sodium, Etoposide (V16-213), Floxuridine, 5-Fluorouracil (5-Fu), Flutamide, Hydroxyurea (hydroxycarbamide), Ifosfamide, Interferon Alpha-2a, Interferon Alpha-2b, Leuprolide acetate  
10 (LHRH-releasing factor analog), Lomustine, Mechlorethamine HCl (nitrogen mustard), Melphalan, Mercaptopurine, Mesna, Methotrexate (MTX), Mitomycin, Mitoxantrone HCl, Octreotide, Plicamycin, Procarbazine HCl, Streptozocin, Tamoxifen citrate, Thioguanine, Thiotepa, Vinblastine sulfate, Vincristine sulfate, Amsacrine, Azacitidine, Hexamethylmelamine, Interleukin-2, Mitoguazone, Pentostatin, Semustine, Teniposide, and Vindesine sulfate.

15 In addition, therapeutic compositions of the invention may be used for prophylactic treatment of cancer. There are hereditary conditions and/or environmental situations (*e.g.* exposure to carcinogens) known in the art that predispose an individual to developing cancers. Under these circumstances, it may be beneficial to treat these individuals with therapeutically effective doses of the polypeptide of the invention to reduce the risk of developing cancers.

20 *In vitro* models can be used to determine the effective doses of the polypeptide of the invention as a potential cancer treatment. These *in vitro* models include proliferation assays of cultured tumor cells, growth of cultured tumor cells in soft agar (see Freshney, (1987) Culture of Animal Cells: A Manual of Basic Technique, Wiley-Liss, New York, NY Ch 18 and Ch 21), tumor systems in nude mice as described in Giovanella et al., J. Natl. Can. Inst., 52: 921-30  
25 (1974), mobility and invasive potential of tumor cells in Boyden Chamber assays as described in Pilkington et al., Anticancer Res., 17: 4107-9 (1997), and angiogenesis assays such as induction of vascularization of the chick chorioallantoic membrane or induction of vascular endothelial cell migration as described in Ribatta et al., Intl. J. Dev. Biol., 40: 1189-97 (1999) and Li et al., Clin. Exp. Metastasis, 17:423-9 (1999), respectively. Suitable tumor cells lines are available,  
30 *e.g.* from American Type Tissue Culture Collection catalogs.

#### 4.10.12 RECEPTOR/LIGAND ACTIVITY

A polypeptide of the present invention may also demonstrate activity as receptor, receptor ligand or inhibitor or agonist of receptor/ligand interactions. A polynucleotide of the  
35 invention can encode a polypeptide exhibiting such characteristics. Examples of such receptors

and ligands include, without limitation, cytokine receptors and their ligands, receptor kinases and their ligands, receptor phosphatases and their ligands, receptors involved in cell-cell interactions and their ligands (including without limitation, cellular adhesion molecules (such as selectins, integrins and their ligands) and receptor/ligand pairs involved in antigen presentation, antigen recognition and development of cellular and humoral immune responses. Receptors and ligands are also useful for screening of potential peptide or small molecule inhibitors of the relevant receptor/ligand interaction. A protein of the present invention (including, without limitation, fragments of receptors and ligands) may themselves be useful as inhibitors of receptor/ligand interactions.

10       The activity of a polypeptide of the invention may, among other means, be measured by the following methods:

Suitable assays for receptor-ligand activity include without limitation those described in: Current Protocols in Immunology, Ed by J. E. Coligan, A. M. Kruisbeek, D. H. Margulies, E. M. Shevach, W. Strober, Pub. Greene Publishing Associates and Wiley- Interscience (Chapter 7.28, Measurement of Cellular Adhesion under static conditions 7.28.1- 7.28.22), Takai et al., Proc. Natl. Acad. Sci. USA 84:6864-6868, 1987; Bierer et al., J. Exp. Med. 168:1145-1156, 1988; Rosenstein et al., J. Exp. Med. 169:149-160 1989; Stoltenborg et al., J. Immunol. Methods 175:59-68, 1994; Stitt et al., Cell 80:661-670, 1995.

20       By way of example, the polypeptides of the invention may be used as a receptor for a ligand(s) thereby transmitting the biological activity of that ligand(s). Ligands may be identified through binding assays, affinity chromatography, dihybrid screening assays, BIAcore assays, gel overlay assays, or other methods known in the art.

25       Studies characterizing drugs or proteins as agonist or antagonist or partial agonists or a partial antagonist require the use of other proteins as competing ligands. The polypeptides of the present invention or ligand(s) thereof may be labeled by being coupled to radioisotopes, colorimetric molecules or toxin molecules by conventional methods. ("Guide to Protein Purification" Murray P. Deutscher (ed) Methods in Enzymology Vol. 182 (1990) Academic Press, Inc. San Diego). Examples of radioisotopes include, but are not limited to, tritium and carbon-14. Examples of colorimetric molecules include, but are not limited to, fluorescent molecules such as fluorescamine, or rhodamine or other colorimetric molecules. Examples of toxins include, but are not limited, to ricin.

#### 4.10.13       DRUG SCREENING

35       This invention is particularly useful for screening chemical compounds by using the novel polypeptides or binding fragments thereof in any of a variety of drug screening techniques.

The polypeptides or fragments employed in such a test may either be free in solution, affixed to a solid support, borne on a cell surface or located intracellularly. One method of drug screening utilizes eukaryotic or prokaryotic host cells which are stably transformed with recombinant nucleic acids expressing the polypeptide or a fragment thereof. Drugs are screened against such transformed cells in competitive binding assays. Such cells, either in viable or fixed form, can be used for standard binding assays. One may measure, for example, the formation of complexes between polypeptides of the invention or fragments and the agent being tested or examine the diminution in complex formation between the novel polypeptides and an appropriate cell line, which are well known in the art.

Sources for test compounds that may be screened for ability to bind to or modulate (*i.e.*, increase or decrease) the activity of polypeptides of the invention include (1) inorganic and organic chemical libraries, (2) natural product libraries, and (3) combinatorial libraries comprised of either random or mimetic peptides, oligonucleotides or organic molecules.

Chemical libraries may be readily synthesized or purchased from a number of commercial sources, and may include structural analogs of known compounds or compounds that are identified as "hits" or "leads" via natural product screening.

The sources of natural product libraries are microorganisms (including bacteria and fungi), animals, plants or other vegetation, or marine organisms, and libraries of mixtures for screening may be created by: (1) fermentation and extraction of broths from soil, plant or marine microorganisms or (2) extraction of the organisms themselves. Natural product libraries include polyketides, non-ribosomal peptides, and (non-naturally occurring) variants thereof. For a review, see *Science* 282:63-68 (1998).

Combinatorial libraries are composed of large numbers of peptides, oligonucleotides or organic compounds and can be readily prepared by traditional automated synthesis methods, PCR, cloning or proprietary synthetic methods. Of particular interest are peptide and oligonucleotide combinatorial libraries. Still other libraries of interest include peptide, protein, peptidomimetic, multiparallel synthetic collection, recombinatorial, and polypeptide libraries. For a review of combinatorial chemistry and libraries created therefrom, see Myers, *Curr. Opin. Biotechnol.* 8:701-707 (1997). For reviews and examples of peptidomimetic libraries, see Al-Obeidi et al., *Mol. Biotechnol.* 9(3):205-23 (1998); Hruby et al., *Curr Opin Chem Biol*, 1(1):114-19 (1997); Dorner et al., *Bioorg Med Chem*, 4(5):709-15 (1996) (alkylated dipeptides).

Identification of modulators through use of the various libraries described herein permits modification of the candidate "hit" (or "lead") to optimize the capacity of the "hit" to bind a polypeptide of the invention. The molecules identified in the binding assay are then tested for antagonist or agonist activity in *in vivo* tissue culture or animal models that are well known in the

art. In brief, the molecules are titrated into a plurality of cell cultures or animals and then tested for either cell/animal death or prolonged survival of the animal/cells.

The binding molecules thus identified may be complexed with toxins, *e.g.*, ricin or cholera, or with other compounds that are toxic to cells such as radioisotopes. The toxin-binding molecule complex is then targeted to a tumor or other cell by the specificity of the binding molecule for a polypeptide of the invention. Alternatively, the binding molecules may be complexed with imaging agents for targeting and imaging purposes.

#### 4.10.14 ASSAY FOR RECEPTOR ACTIVITY

The invention also provides methods to detect specific binding of a polypeptide *e.g.* a ligand or a receptor. The art provides numerous assays particularly useful for identifying previously unknown binding partners for receptor polypeptides of the invention. For example, expression cloning using mammalian or bacterial cells, or dihybrid screening assays can be used to identify polynucleotides encoding binding partners. As another example, affinity chromatography with the appropriate immobilized polypeptide of the invention can be used to isolate polypeptides that recognize and bind polypeptides of the invention. There are a number of different libraries used for the identification of compounds, and in particular small molecules, that modulate (*i.e.*, increase or decrease) biological activity of a polypeptide of the invention. Ligands for receptor polypeptides of the invention can also be identified by adding exogenous ligands, or cocktails of ligands to two cells populations that are genetically identical except for the expression of the receptor of the invention: one cell population expresses the receptor of the invention whereas the other does not. The responses of the two cell populations to the addition of ligands(s) are then compared. Alternatively, an expression library can be co-expressed with the polypeptide of the invention in cells and assayed for an autocrine response to identify potential ligand(s). As still another example, BIAcore assays, gel overlay assays, or other methods known in the art can be used to identify binding partner polypeptides, including, (1) organic and inorganic chemical libraries, (2) natural product libraries, and (3) combinatorial libraries comprised of random peptides, oligonucleotides or organic molecules.

The role of downstream intracellular signaling molecules in the signaling cascade of the polypeptide of the invention can be determined. For example, a chimeric protein in which the cytoplasmic domain of the polypeptide of the invention is fused to the extracellular portion of a protein, whose ligand has been identified, is produced in a host cell. The cell is then incubated with the ligand specific for the extracellular portion of the chimeric protein, thereby activating the chimeric receptor. Known downstream proteins involved in intracellular signaling can then



be assayed for expected modifications *i.e.* phosphorylation. Other methods known to those in the art can also be used to identify signaling molecules involved in receptor activity.

#### 4.10.15 ANTI-INFLAMMATORY ACTIVITY

5 Compositions of the present invention may also exhibit anti-inflammatory activity. The anti-inflammatory activity may be achieved by providing a stimulus to cells involved in the inflammatory response, by inhibiting or promoting cell-cell interactions (such as, for example, cell adhesion), by inhibiting or promoting chemotaxis of cells involved in the inflammatory process, inhibiting or promoting cell extravasation, or by stimulating or suppressing production  
10 of other factors which more directly inhibit or promote an inflammatory response. Compositions with such activities can be used to treat inflammatory conditions including chronic or acute conditions), including without limitation intimation associated with infection (such as septic shock, sepsis or systemic inflammatory response syndrome (SIRS)), ischemia-reperfusion injury, endotoxin lethality, arthritis, complement-mediated hyperacute rejection, nephritis, cytokine or  
15 chemokine-induced lung injury, inflammatory bowel disease, Crohn's disease or resulting from over production of cytokines such as TNF or IL-1. Compositions of the invention may also be useful to treat anaphylaxis and hypersensitivity to an antigenic substance or material. Compositions of this invention may be utilized to prevent or treat conditions such as, but not limited to, sepsis, acute pancreatitis, endotoxin shock, cytokine induced shock, rheumatoid  
20 arthritis, chronic inflammatory arthritis, pancreatic cell damage from diabetes mellitus type 1, graft versus host disease, inflammatory bowel disease, inflammation associated with pulmonary disease, other autoimmune disease or inflammatory disease, an antiproliferative agent such as for acute or chronic myelogenous leukemia or in the prevention of premature labor secondary to intrauterine infections.

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#### 4.10.16 LEUKEMIAS

Leukemias and related disorders may be treated or prevented by administration of a therapeutic that promotes or inhibits function of the polynucleotides and/or polypeptides of the invention. Such leukemias and related disorders include but are not limited to acute leukemia,  
30 acute lymphocytic leukemia, acute myelocytic leukemia, myeloblastic, promyelocytic, myelomonocytic, monocytic, erythroleukemia, chronic leukemia, chronic myelocytic (granulocytic) leukemia and chronic lymphocytic leukemia (for a review of such disorders, see Fishman et al., 1985, Medicine, 2d Ed., J.B. Lippincott Co., Philadelphia).

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#### 4.10.17 NERVOUS SYSTEM DISORDERS

Nervous system disorders, involving cell types which can be tested for efficacy of intervention with compounds that modulate the activity of the polynucleotides and/or polypeptides of the invention, and which can be treated upon thus observing an indication of therapeutic utility, include but are not limited to nervous system injuries, and diseases or disorders which result in either a disconnection of axons, a diminution or degeneration of neurons, or demyelination. Nervous system lesions which may be treated in a patient (including human and non-human mammalian patients) according to the invention include but are not limited to the following lesions of either the central (including spinal cord, brain) or peripheral nervous systems:

- 10 (i) traumatic lesions, including lesions caused by physical injury or associated with surgery, for example, lesions which sever a portion of the nervous system, or compression injuries;
- (ii) ischemic lesions, in which a lack of oxygen in a portion of the nervous system results in neuronal injury or death, including cerebral infarction or ischemia, or spinal cord  
15 infarction or ischemia;
- (iii) infectious lesions, in which a portion of the nervous system is destroyed or injured as a result of infection, for example, by an abscess or associated with infection by human immunodeficiency virus, herpes zoster, or herpes simplex virus or with Lyme disease, tuberculosis, syphilis;
- 20 (iv) degenerative lesions, in which a portion of the nervous system is destroyed or injured as a result of a degenerative process including but not limited to degeneration associated with Parkinson's disease, Alzheimer's disease, Huntington's chorea, or amyotrophic lateral sclerosis;
- (v) lesions associated with nutritional diseases or disorders, in which a portion of the  
25 nervous system is destroyed or injured by a nutritional disorder or disorder of metabolism including but not limited to, vitamin B12 deficiency, folic acid deficiency, Wernicke disease, tobacco-alcohol amblyopia, Marchiafava-Bignami disease (primary degeneration of the corpus callosum), and alcoholic cerebellar degeneration;
- (vi) neurological lesions associated with systemic diseases including but not limited to  
30 diabetes (diabetic neuropathy, Bell's palsy), systemic lupus erythematosus, carcinoma, or sarcoidosis;
- (vii) lesions caused by toxic substances including alcohol, lead, or particular neurotoxins; and
- (viii) demyelinated lesions in which a portion of the nervous system is destroyed or  
35 injured by a demyelinating disease including but not limited to multiple sclerosis, human

immunodeficiency virus-associated myelopathy, transverse myelopathy or various etiologies, progressive multifocal leukoencephalopathy, and central pontine myelinolysis.

Therapeutics which are useful according to the invention for treatment of a nervous system disorder may be selected by testing for biological activity in promoting the survival or differentiation of neurons. For example, and not by way of limitation, therapeutics which elicit any of the following effects may be useful according to the invention:

- (i) increased survival time of neurons in culture;
- (ii) increased sprouting of neurons in culture or in vivo;
- (iii) increased production of a neuron-associated molecule in culture or *in vivo*, *e.g.*, choline acetyltransferase or acetylcholinesterase with respect to motor neurons; or
- (iv) decreased symptoms of neuron dysfunction in vivo.

Such effects may be measured by any method known in the art. In preferred, non-limiting embodiments, increased survival of neurons may be measured by the method set forth in Arakawa et al. (1990, J. Neurosci. 10:3507-3515); increased sprouting of neurons may be detected by methods set forth in Pestronk et al. (1980, Exp. Neurol. 70:65-82) or Brown et al. (1981, Ann. Rev. Neurosci. 4:17-42); increased production of neuron-associated molecules may be measured by bioassay, enzymatic assay, antibody binding, Northern blot assay, *etc.*, depending on the molecule to be measured; and motor neuron dysfunction may be measured by assessing the physical manifestation of motor neuron disorder, *e.g.*, weakness, motor neuron conduction velocity, or functional disability.

In specific embodiments, motor neuron disorders that may be treated according to the invention include but are not limited to disorders such as infarction, infection, exposure to toxin, trauma, surgical damage, degenerative disease or malignancy that may affect motor neurons as well as other components of the nervous system, as well as disorders that selectively affect neurons such as amyotrophic lateral sclerosis, and including but not limited to progressive spinal muscular atrophy, progressive bulbar palsy, primary lateral sclerosis, infantile and juvenile muscular atrophy, progressive bulbar paralysis of childhood (Fazio-Londe syndrome), poliomyelitis and the post polio syndrome, and Hereditary Motorsensory Neuropathy (Charcot-Marie-Tooth Disease).

#### 4.10.18 OTHER ACTIVITIES

A polypeptide of the invention may also exhibit one or more of the following additional activities or effects: inhibiting the growth, infection or function of, or killing, infectious agents, including, without limitation, bacteria, viruses, fungi and other parasites; effecting (suppressing or enhancing) bodily characteristics, including, without limitation, height, weight, hair color, eye

color, skin, fat to lean ratio or other tissue pigmentation, or organ or body part size or shape (such as, for example, breast augmentation or diminution, change in bone form or shape); effecting biorhythms or circadian cycles or rhythms; effecting the fertility of male or female subjects; effecting the metabolism, catabolism, anabolism, processing, utilization, storage or  
5 elimination of dietary fat, lipid, protein, carbohydrate, vitamins, minerals, co-factors or other nutritional factors or component(s); effecting behavioral characteristics, including, without limitation, appetite, libido, stress, cognition (including cognitive disorders), depression (including depressive disorders) and violent behaviors; providing analgesic effects or other pain reducing effects; promoting differentiation and growth of embryonic stem cells in lineages other  
10 than hematopoietic lineages; hormonal or endocrine activity; in the case of enzymes, correcting deficiencies of the enzyme and treating deficiency-related diseases; treatment of hyperproliferative disorders (such as, for example, psoriasis); immunoglobulin-like activity (such as, for example, the ability to bind antigens or complement); and the ability to act as an antigen in a vaccine composition to raise an immune response against such protein or another material or  
15 entity which is cross-reactive with such protein.

#### 4.10.19 IDENTIFICATION OF POLYMORPHISMS

The demonstration of polymorphisms makes possible the identification of such polymorphisms in human subjects and the pharmacogenetic use of this information for diagnosis  
20 and treatment. Such polymorphisms may be associated with, *e.g.*, differential predisposition or susceptibility to various disease states (such as disorders involving inflammation or immune response) or a differential response to drug administration, and this genetic information can be used to tailor preventive or therapeutic treatment appropriately. For example, the existence of a polymorphism associated with a predisposition to inflammation or autoimmune disease makes  
25 possible the diagnosis of this condition in humans by identifying the presence of the polymorphism.

Polymorphisms can be identified in a variety of ways known in the art which all generally involve obtaining a sample from a patient, analyzing DNA from the sample, optionally involving isolation or amplification of the DNA, and identifying the presence of the  
30 polymorphism in the DNA. For example, PCR may be used to amplify an appropriate fragment of genomic DNA which may then be sequenced. Alternatively, the DNA may be subjected to allele-specific oligonucleotide hybridization (in which appropriate oligonucleotides are hybridized to the DNA under conditions permitting detection of a single base mismatch) or to a single nucleotide extension assay (in which an oligonucleotide that hybridizes immediately  
35 adjacent to the position of the polymorphism is extended with one or more labeled nucleotides).

In addition, traditional restriction fragment length polymorphism analysis (using restriction enzymes that provide differential digestion of the genomic DNA depending on the presence or absence of the polymorphism) may be performed. Arrays with nucleotide sequences of the present invention can be used to detect polymorphisms. The array can comprise modified  
5 nucleotide sequences of the present invention in order to detect the nucleotide sequences of the present invention. In the alternative, any one of the nucleotide sequences of the present invention can be placed on the array to detect changes from those sequences.

Alternatively a polymorphism resulting in a change in the amino acid sequence could also be detected by detecting a corresponding change in amino acid sequence of the protein, *e.g.*,  
10 by an antibody specific to the variant sequence.

#### 4.10.20 ARTHRITIS AND INFLAMMATION

The immunosuppressive effects of the compositions of the invention against rheumatoid arthritis are determined in an experimental animal model system. The experimental model  
15 system is adjuvant induced arthritis in rats, and the protocol is described by J. Holoshitz, et al., 1983, Science, 219:56, or by B. Waksman et al., 1963, Int. Arch. Allergy Appl. Immunol., 23:129. Induction of the disease can be caused by a single injection, generally intradermally, of a suspension of killed Mycobacterium tuberculosis in complete Freund's adjuvant (CFA). The route of injection can vary, but rats may be injected at the base of the tail with an adjuvant  
20 mixture. The polypeptide is administered in phosphate buffered solution (PBS) at a dose of about 1-5 mg/kg. The control consists of administering PBS only.

The procedure for testing the effects of the test compound would consist of intradermally injecting killed Mycobacterium tuberculosis in CFA followed by immediately administering the test compound and subsequent treatment every other day until day 24. At 14, 15, 18, 20, 22, and  
25 24 days after injection of Mycobacterium CFA, an overall arthritis score may be obtained as described by J. Holoskitz above. An analysis of the data would reveal that the test compound would have a dramatic affect on the swelling of the joints as measured by a decrease of the arthritis score.

#### 30 4.11 THERAPEUTIC METHODS

The compositions (including polypeptide fragments, analogs, variants and antibodies or other binding partners or modulators including antisense polynucleotides) of the invention have numerous applications in a variety of therapeutic methods. Examples of therapeutic applications include, but are not limited to, those exemplified herein.

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#### 4.11.1 EXAMPLE

One embodiment of the invention is the administration of an effective amount of the polypeptides or other composition of the invention to individuals affected by a disease or disorder that can be modulated by regulating the peptides of the invention. While the mode of administration is not particularly important, parenteral administration is preferred. An exemplary mode of administration is to deliver an intravenous bolus. The dosage of the polypeptides or other composition of the invention will normally be determined by the prescribing physician. It is to be expected that the dosage will vary according to the age, weight, condition and response of the individual patient. Typically, the amount of polypeptide administered per dose will be in the range of about 0.01  $\mu\text{g/kg}$  to 100 mg/kg of body weight, with the preferred dose being about 0.1  $\mu\text{g/kg}$  to 10 mg/kg of patient body weight. For parenteral administration, polypeptides of the invention will be formulated in an injectable form combined with a pharmaceutically acceptable parenteral vehicle. Such vehicles are well known in the art and examples include water, saline, Ringer's solution, dextrose solution, and solutions consisting of small amounts of the human serum albumin. The vehicle may contain minor amounts of additives that maintain the isotonicity and stability of the polypeptide or other active ingredient. The preparation of such solutions is within the skill of the art.

#### 4.12 PHARMACEUTICAL FORMULATIONS AND ROUTES OF ADMINISTRATION

A protein or other composition of the present invention (from whatever source derived, including without limitation from recombinant and non-recombinant sources and including antibodies and other binding partners of the polypeptides of the invention) may be administered to a patient in need, by itself, or in pharmaceutical compositions where it is mixed with suitable carriers or excipient(s) at doses to treat or ameliorate a variety of disorders. Such a composition may optionally contain (in addition to protein or other active ingredient and a carrier) diluents, fillers, salts, buffers, stabilizers, solubilizers, and other materials well known in the art. The term "pharmaceutically acceptable" means a non-toxic material that does not interfere with the effectiveness of the biological activity of the active ingredient(s). The characteristics of the carrier will depend on the route of administration. The pharmaceutical composition of the invention may also contain cytokines, lymphokines, or other hematopoietic factors such as M-CSF, GM-CSF, TNF, IL-1, IL-2, IL-3, IL-4, IL-5, IL-6, IL-7, IL-8, IL-9, IL-10, IL-11, IL-12, IL-13, IL-14, IL-15, IFN, TNF0, TNF1, TNF2, G-CSF, Meg-CSF, thrombopoietin, stem cell factor, and erythropoietin. In further compositions, proteins of the invention may be combined with other agents beneficial to the treatment of the disease or disorder in question. These agents

include various growth factors such as epidermal growth factor (EGF), platelet-derived growth factor (PDGF), transforming growth factors (TGF- $\alpha$  and TGF- $\beta$ ), insulin-like growth factor (IGF), as well as cytokines described herein.

The pharmaceutical composition may further contain other agents which either enhance  
5 the activity of the protein or other active ingredient or complement its activity or use in  
treatment. Such additional factors and/or agents may be included in the pharmaceutical  
composition to produce a synergistic effect with protein or other active ingredient of the  
invention, or to minimize side effects. Conversely, protein or other active ingredient of the  
present invention may be included in formulations of the particular clotting factor, cytokine,  
10 lymphokine, other hematopoietic factor, thrombolytic or anti-thrombotic factor, or anti-  
inflammatory agent to minimize side effects of the clotting factor, cytokine, lymphokine, other  
hematopoietic factor, thrombolytic or anti-thrombotic factor, or anti-inflammatory agent (such as  
IL-1Ra, IL-1 Hy1, IL-1 Hy2, anti-TNF, corticosteroids, immunosuppressive agents). A protein  
of the present invention may be active in multimers (*e.g.*, heterodimers or homodimers) or  
15 complexes with itself or other proteins. As a result, pharmaceutical compositions of the  
invention may comprise a protein of the invention in such multimeric or complexed form.

As an alternative to being included in a pharmaceutical composition of the invention  
including a first protein, a second protein or a therapeutic agent may be concurrently  
administered with the first protein (*e.g.*, at the same time, or at differing times provided that  
20 therapeutic concentrations of the combination of agents is achieved at the treatment site).  
Techniques for formulation and administration of the compounds of the instant application may  
be found in "Remington's Pharmaceutical Sciences," Mack Publishing Co., Easton, PA, latest  
edition. A therapeutically effective dose further refers to that amount of the compound sufficient  
to result in amelioration of symptoms, *e.g.*, treatment, healing, prevention or amelioration of the  
25 relevant medical condition, or an increase in rate of treatment, healing, prevention or  
amelioration of such conditions. When applied to an individual active ingredient, administered  
alone, a therapeutically effective dose refers to that ingredient alone. When applied to a  
combination, a therapeutically effective dose refers to combined amounts of the active  
ingredients that result in the therapeutic effect, whether administered in combination, serially or  
30 simultaneously.

In practicing the method of treatment or use of the present invention, a therapeutically  
effective amount of protein or other active ingredient of the present invention is administered to  
a mammal having a condition to be treated. Protein or other active ingredient of the present  
invention may be administered in accordance with the method of the invention either alone or in  
35 combination with other therapies such as treatments employing cytokines, lymphokines or other

hematopoietic factors. When co-administered with one or more cytokines, lymphokines or other hematopoietic factors, protein or other active ingredient of the present invention may be administered either simultaneously with the cytokine(s), lymphokine(s), other hematopoietic factor(s), thrombolytic or anti-thrombotic factors, or sequentially. If administered sequentially, the attending physician will decide on the appropriate sequence of administering protein or other active ingredient of the present invention in combination with cytokine(s), lymphokine(s), other hematopoietic factor(s), thrombolytic or anti-thrombotic factors.

#### 4.12.1 ROUTES OF ADMINISTRATION

Suitable routes of administration may, for example, include oral, rectal, transmucosal, or intestinal administration; parenteral delivery, including intramuscular, subcutaneous, intramedullary injections, as well as intrathecal, direct intraventricular, intravenous, intraperitoneal, intranasal, or intraocular injections. Administration of protein or other active ingredient of the present invention used in the pharmaceutical composition or to practice the method of the present invention can be carried out in a variety of conventional ways, such as oral ingestion, inhalation, topical application or cutaneous, subcutaneous, intraperitoneal, parenteral or intravenous injection. Intravenous administration to the patient is preferred.

Alternately, one may administer the compound in a local rather than systemic manner, for example, via injection of the compound directly into a arthritic joints or in fibrotic tissue, often in a depot or sustained release formulation. In order to prevent the scarring process frequently occurring as complication of glaucoma surgery, the compounds may be administered topically, for example, as eye drops. Furthermore, one may administer the drug in a targeted drug delivery system, for example, in a liposome coated with a specific antibody, targeting, for example, arthritic or fibrotic tissue. The liposomes will be targeted to and taken up selectively by the afflicted tissue.

The polypeptides of the invention are administered by any route that delivers an effective dosage to the desired site of action. The determination of a suitable route of administration and an effective dosage for a particular indication is within the level of skill in the art. Preferably for wound treatment, one administers the therapeutic compound directly to the site. Suitable dosage ranges for the polypeptides of the invention can be extrapolated from these dosages or from similar studies in appropriate animal models. Dosages can then be adjusted as necessary by the clinician to provide maximal therapeutic benefit.

#### 4.12.2 COMPOSITIONS/FORMULATIONS



Pharmaceutical compositions for use in accordance with the present invention thus may be formulated in a conventional manner using one or more physiologically acceptable carriers comprising excipients and auxiliaries which facilitate processing of the active compounds into preparations which can be used pharmaceutically. These pharmaceutical compositions may be manufactured in a manner that is itself known, *e.g.*, by means of conventional mixing, dissolving, granulating, dragee-making, levigating, emulsifying, encapsulating, entrapping or lyophilizing processes. Proper formulation is dependent upon the route of administration chosen. When a therapeutically effective amount of protein or other active ingredient of the present invention is administered orally, protein or other active ingredient of the present invention will be in the form of a tablet, capsule, powder, solution or elixir. When administered in tablet form, the pharmaceutical composition of the invention may additionally contain a solid carrier such as a gelatin or an adjuvant. The tablet, capsule, and powder contain from about 5 to 95% protein or other active ingredient of the present invention, and preferably from about 25 to 90% protein or other active ingredient of the present invention. When administered in liquid form, a liquid carrier such as water, petroleum, oils of animal or plant origin such as peanut oil, mineral oil, soybean oil, or sesame oil, or synthetic oils may be added. The liquid form of the pharmaceutical composition may further contain physiological saline solution, dextrose or other saccharide solution, or glycols such as ethylene glycol, propylene glycol or polyethylene glycol. When administered in liquid form, the pharmaceutical composition contains from about 0.5 to 90% by weight of protein or other active ingredient of the present invention, and preferably from about 1 to 50% protein or other active ingredient of the present invention.

When a therapeutically effective amount of protein or other active ingredient of the present invention is administered by intravenous, cutaneous or subcutaneous injection, protein or other active ingredient of the present invention will be in the form of a pyrogen-free, parenterally acceptable aqueous solution. The preparation of such parenterally acceptable protein or other active ingredient solutions, having due regard to pH, isotonicity, stability, and the like, is within the skill in the art. A preferred pharmaceutical composition for intravenous, cutaneous, or subcutaneous injection should contain, in addition to protein or other active ingredient of the present invention, an isotonic vehicle such as Sodium Chloride Injection, Ringer's Injection, Dextrose Injection, Dextrose and Sodium Chloride Injection, Lactated Ringer's Injection, or other vehicle as known in the art. The pharmaceutical composition of the present invention may also contain stabilizers, preservatives, buffers, antioxidants, or other additives known to those of skill in the art. For injection, the agents of the invention may be formulated in aqueous solutions, preferably in physiologically compatible buffers such as Hanks's solution, Ringer's solution, or physiological saline buffer. For transmucosal administration, penetrants appropriate

to the barrier to be permeated are used in the formulation. Such penetrants are generally known in the art.

For oral administration, the compounds can be formulated readily by combining the active compounds with pharmaceutically acceptable carriers well known in the art. Such carriers enable the compounds of the invention to be formulated as tablets, pills, dragees, capsules, liquids, gels, syrups, slurries, suspensions and the like, for oral ingestion by a patient to be treated. Pharmaceutical preparations for oral use can be obtained from a solid excipient, optionally grinding a resulting mixture, and processing the mixture of granules, after adding suitable auxiliaries, if desired, to obtain tablets or dragee cores. Suitable excipients are, in particular, fillers such as sugars, including lactose, sucrose, mannitol, or sorbitol; cellulose preparations such as, for example, maize starch, wheat starch, rice starch, potato starch, gelatin, gum tragacanth, methyl cellulose, hydroxypropylmethyl-cellulose, sodium carboxymethylcellulose, and/or polyvinylpyrrolidone (PVP). If desired, disintegrating agents may be added, such as the cross-linked polyvinyl pyrrolidone, agar, or alginic acid or a salt thereof such as sodium alginate. Dragee cores are provided with suitable coatings. For this purpose, concentrated sugar solutions may be used, which may optionally contain gum arabic, talc, polyvinyl pyrrolidone, carbopol gel, polyethylene glycol, and/or titanium dioxide, lacquer solutions, and suitable organic solvents or solvent mixtures. Dyestuffs or pigments may be added to the tablets or dragee coatings for identification or to characterize different combinations of active compound doses.

Pharmaceutical preparations which can be used orally include push-fit capsules made of gelatin, as well as soft, sealed capsules made of gelatin and a plasticizer, such as glycerol or sorbitol. The push-fit capsules can contain the active ingredients in admixture with filler such as lactose, binders such as starches, and/or lubricants such as talc or magnesium stearate and, optionally, stabilizers. In soft capsules, the active compounds may be dissolved or suspended in suitable liquids, such as fatty oils, liquid paraffin, or liquid polyethylene glycols. In addition, stabilizers may be added. All formulations for oral administration should be in dosages suitable for such administration. For buccal administration, the compositions may take the form of tablets or lozenges formulated in conventional manner.

For administration by inhalation, the compounds for use according to the present invention are conveniently delivered in the form of an aerosol spray presentation from pressurized packs or a nebuliser, with the use of a suitable propellant, *e.g.*, dichlorodifluoromethane, trichlorofluoromethane, dichlorotetrafluoroethane, carbon dioxide or other suitable gas. In the case of a pressurized aerosol the dosage unit may be determined by providing a valve to deliver a metered amount. Capsules and cartridges of, *e.g.*, gelatin for use

in an inhaler or insufflator may be formulated containing a powder mix of the compound and a suitable powder base such as lactose or starch. The compounds may be formulated for parenteral administration by injection, *e.g.*, by bolus injection or continuous infusion. Formulations for injection may be presented in unit dosage form, *e.g.*, in ampules or in multi-dose containers, with  
5 an added preservative. The compositions may take such forms as suspensions, solutions or emulsions in oily or aqueous vehicles, and may contain formulatory agents such as suspending, stabilizing and/or dispersing agents.

Pharmaceutical formulations for parenteral administration include aqueous solutions of the active compounds in water-soluble form. Additionally, suspensions of the active compounds  
10 may be prepared as appropriate oily injection suspensions. Suitable lipophilic solvents or vehicles include fatty oils such as sesame oil, or synthetic fatty acid esters, such as ethyl oleate or triglycerides, or liposomes. Aqueous injection suspensions may contain substances which increase the viscosity of the suspension, such as sodium carboxymethyl cellulose, sorbitol, or dextran. Optionally, the suspension may also contain suitable stabilizers or agents which  
15 increase the solubility of the compounds to allow for the preparation of highly concentrated solutions. Alternatively, the active ingredient may be in powder form for constitution with a suitable vehicle, *e.g.*, sterile pyrogen-free water, before use.

The compounds may also be formulated in rectal compositions such as suppositories or retention enemas, *e.g.*, containing conventional suppository bases such as cocoa butter or other  
20 glycerides. In addition to the formulations described previously, the compounds may also be formulated as a depot preparation. Such long acting formulations may be administered by implantation (for example subcutaneously or intramuscularly) or by intramuscular injection. Thus, for example, the compounds may be formulated with suitable polymeric or hydrophobic materials (for example as an emulsion in an acceptable oil) or ion exchange resins, or as  
25 sparingly soluble derivatives, for example, as a sparingly soluble salt.

A pharmaceutical carrier for the hydrophobic compounds of the invention is a co-solvent system comprising benzyl alcohol, a nonpolar surfactant, a water-miscible organic polymer, and an aqueous phase. The co-solvent system may be the VPD co-solvent system. VPD is a solution of 3% w/v benzyl alcohol, 8% w/v of the nonpolar surfactant polysorbate 80, and 65% w/v  
30 polyethylene glycol 300, made up to volume in absolute ethanol. The VPD co-solvent system (VPD:5W) consists of VPD diluted 1:1 with a 5% dextrose in water solution. This co-solvent system dissolves hydrophobic compounds well, and itself produces low toxicity upon systemic administration. Naturally, the proportions of a co-solvent system may be varied considerably without destroying its solubility and toxicity characteristics. Furthermore, the identity of the  
35 co-solvent components may be varied: for example, other low-toxicity nonpolar surfactants may

be used instead of polysorbate 80; the fraction size of polyethylene glycol may be varied; other biocompatible polymers may replace polyethylene glycol, *e.g.* polyvinyl pyrrolidone; and other sugars or polysaccharides may substitute for dextrose. Alternatively, other delivery systems for hydrophobic pharmaceutical compounds may be employed. Liposomes and emulsions are well known examples of delivery vehicles or carriers for hydrophobic drugs. Certain organic solvents such as dimethylsulfoxide also may be employed, although usually at the cost of greater toxicity. Additionally, the compounds may be delivered using a sustained-release system, such as semipermeable matrices of solid hydrophobic polymers containing the therapeutic agent. Various types of sustained-release materials have been established and are well known by those skilled in the art. Sustained-release capsules may, depending on their chemical nature, release the compounds for a few weeks up to over 100 days. Depending on the chemical nature and the biological stability of the therapeutic reagent, additional strategies for protein or other active ingredient stabilization may be employed.

The pharmaceutical compositions also may comprise suitable solid or gel phase carriers or excipients. Examples of such carriers or excipients include but are not limited to calcium carbonate, calcium phosphate, various sugars, starches, cellulose derivatives, gelatin, and polymers such as polyethylene glycols. Many of the active ingredients of the invention may be provided as salts with pharmaceutically compatible counter ions. Such pharmaceutically acceptable base addition salts are those salts which retain the biological effectiveness and properties of the free acids and which are obtained by reaction with inorganic or organic bases such as sodium hydroxide, magnesium hydroxide, ammonia, trialkylamine, dialkylamine, monoalkylamine, dibasic amino acids, sodium acetate, potassium benzoate, triethanol amine and the like.

The pharmaceutical composition of the invention may be in the form of a complex of the protein(s) or other active ingredient(s) of present invention along with protein or peptide antigens. The protein and/or peptide antigen will deliver a stimulatory signal to both B and T lymphocytes. B-lymphocytes will respond to antigen through their surface immunoglobulin receptor. T lymphocytes will respond to antigen through the T cell receptor (TCR) following presentation of the antigen by MHC proteins. MHC and structurally related proteins including those encoded by class I and class II MHC genes on host cells will serve to present the peptide antigen(s) to T lymphocytes. The antigen components could also be supplied as purified MHC-peptide complexes alone or with co-stimulatory molecules that can directly signal T cells. Alternatively antibodies able to bind surface immunoglobulin and other molecules on B cells as well as antibodies able to bind the TCR and other molecules on T cells can be combined with the pharmaceutical composition of the invention.

The pharmaceutical composition of the invention may be in the form of a liposome in which protein of the present invention is combined, in addition to other pharmaceutically acceptable carriers, with amphipathic agents such as lipids which exist in aggregated form as micelles, insoluble monolayers, liquid crystals, or lamellar layers in aqueous solution. Suitable lipids for liposomal formulation include, without limitation, monoglycerides, diglycerides, sulfatides, lysolecithins, phospholipids, saponin, bile acids, and the like. Preparation of such liposomal formulations is within the level of skill in the art, as disclosed, for example, in U.S. Patent Nos. 4,235,871; 4,501,728; 4,837,028; and 4,737,323, all of which are incorporated herein by reference.

The amount of protein or other active ingredient of the present invention in the pharmaceutical composition of the present invention will depend upon the nature and severity of the condition being treated, and on the nature of prior treatments which the patient has undergone. Ultimately, the attending physician will decide the amount of protein or other active ingredient of the present invention with which to treat each individual patient. Initially, the attending physician will administer low doses of protein or other active ingredient of the present invention and observe the patient's response. Larger doses of protein or other active ingredient of the present invention may be administered until the optimal therapeutic effect is obtained for the patient, and at that point the dosage is not increased further. It is contemplated that the various pharmaceutical compositions used to practice the method of the present invention should contain about 0.01  $\mu\text{g}$  to about 100 mg (preferably about 0.1  $\mu\text{g}$  to about 10 mg, more preferably about 0.1  $\mu\text{g}$  to about 1 mg) of protein or other active ingredient of the present invention per kg body weight. For compositions of the present invention which are useful for bone, cartilage, tendon or ligament regeneration, the therapeutic method includes administering the composition topically, systematically, or locally as an implant or device. When administered, the therapeutic composition for use in this invention is, of course, in a pyrogen-free, physiologically acceptable form. Further, the composition may desirably be encapsulated or injected in a viscous form for delivery to the site of bone, cartilage or tissue damage. Topical administration may be suitable for wound healing and tissue repair. Therapeutically useful agents other than a protein or other active ingredient of the invention which may also optionally be included in the composition as described above, may alternatively or additionally, be administered simultaneously or sequentially with the composition in the methods of the invention. Preferably for bone and/or cartilage formation, the composition would include a matrix capable of delivering the protein-containing or other active ingredient-containing composition to the site of bone and/or cartilage damage, providing a structure for the developing bone and cartilage and optimally

capable of being resorbed into the body. Such matrices may be formed of materials presently in use for other implanted medical applications.

The choice of matrix material is based on biocompatibility, biodegradability, mechanical properties, cosmetic appearance and interface properties. The particular application of the compositions will define the appropriate formulation. Potential matrices for the compositions may be biodegradable and chemically defined calcium sulfate, tricalcium phosphate, hydroxyapatite, polylactic acid, polyglycolic acid and polyanhydrides. Other potential materials are biodegradable and biologically well-defined, such as bone or dermal collagen. Further matrices are comprised of pure proteins or extracellular matrix components. Other potential matrices are nonbiodegradable and chemically defined, such as sintered hydroxyapatite, bioglass, aluminates, or other ceramics. Matrices may be comprised of combinations of any of the above-mentioned types of material, such as polylactic acid and hydroxyapatite or collagen and tricalcium phosphate. The bioceramics may be altered in composition, such as in calcium-aluminate-phosphate and processing to alter pore size, particle size, particle shape, and biodegradability. Presently preferred is a 50:50 (mole weight) copolymer of lactic acid and glycolic acid in the form of porous particles having diameters ranging from 150 to 800 microns. In some applications, it will be useful to utilize a sequestering agent, such as carboxymethyl cellulose or autologous blood clot, to prevent the protein compositions from disassociating from the matrix.

A preferred family of sequestering agents is cellulosic materials such as alkylcelluloses (including hydroxyalkylcelluloses), including methylcellulose, ethylcellulose, hydroxyethylcellulose, hydroxypropylcellulose, hydroxypropyl-methylcellulose, and carboxymethylcellulose, the most preferred being cationic salts of carboxymethylcellulose (CMC). Other preferred sequestering agents include hyaluronic acid, sodium alginate, poly(ethylene glycol), polyoxyethylene oxide, carboxyvinyl polymer and poly(vinyl alcohol). The amount of sequestering agent useful herein is 0.5-20 wt %, preferably 1-10 wt % based on total formulation weight, which represents the amount necessary to prevent desorption of the protein from the polymer matrix and to provide appropriate handling of the composition, yet not so much that the progenitor cells are prevented from infiltrating the matrix, thereby providing the protein the opportunity to assist the osteogenic activity of the progenitor cells. In further compositions, proteins or other active ingredients of the invention may be combined with other agents beneficial to the treatment of the bone and/or cartilage defect, wound, or tissue in question. These agents include various growth factors such as epidermal growth factor (EGF), platelet derived growth factor (PDGF), transforming growth factors (TGF- $\alpha$  and TGF- $\beta$ ), and insulin-like growth factor (IGF).

The therapeutic compositions are also presently valuable for veterinary applications. Particularly domestic animals and thoroughbred horses, in addition to humans, are desired patients for such treatment with proteins or other active ingredients of the present invention. The dosage regimen of a protein-containing pharmaceutical composition to be used in tissue

5 regeneration will be determined by the attending physician considering various factors which modify the action of the proteins, *e.g.*, amount of tissue weight desired to be formed, the site of damage, the condition of the damaged tissue, the size of a wound, type of damaged tissue (*e.g.*, bone), the patient's age, sex, and diet, the severity of any infection, time of administration and other clinical factors. The dosage may vary with the type of matrix used in the reconstitution

10 and with inclusion of other proteins in the pharmaceutical composition. For example, the addition of other known growth factors, such as IGF I (insulin like growth factor I), to the final composition, may also effect the dosage. Progress can be monitored by periodic assessment of tissue/bone growth and/or repair, for example, X-rays, histomorphometric determinations and tetracycline labeling.

15 Polynucleotides of the present invention can also be used for gene therapy. Such polynucleotides can be introduced either in vivo or ex vivo into cells for expression in a mammalian subject. Polynucleotides of the invention may also be administered by other known methods for introduction of nucleic acid into a cell or organism (including, without limitation, in the form of viral vectors or naked DNA). Cells may also be cultured ex vivo in the presence of

20 proteins of the present invention in order to proliferate or to produce a desired effect on or activity in such cells. Treated cells can then be introduced in vivo for therapeutic purposes.

#### 4.12.3 EFFECTIVE DOSAGE

Pharmaceutical compositions suitable for use in the present invention include

25 compositions wherein the active ingredients are contained in an effective amount to achieve its intended purpose. More specifically, a therapeutically effective amount means an amount effective to prevent development of or to alleviate the existing symptoms of the subject being treated. Determination of the effective amount is well within the capability of those skilled in the art, especially in light of the detailed disclosure provided herein. For any compound used in

30 the method of the invention, the therapeutically effective dose can be estimated initially from appropriate in vitro assays. For example, a dose can be formulated in animal models to achieve a circulating concentration range that can be used to more accurately determine useful doses in humans. For example, a dose can be formulated in animal models to achieve a circulating concentration range that includes the IC<sub>50</sub> as determined in cell culture (*i.e.*, the concentration of

A therapeutically effective dose refers to that amount of the compound that results in amelioration of symptoms or a prolongation of survival in a patient. Toxicity and therapeutic efficacy of such compounds can be determined by standard pharmaceutical procedures in cell cultures or experimental animals, *e.g.*, for determining the LD<sub>50</sub> (the dose lethal to 50% of the population) and the ED<sub>50</sub> (the dose therapeutically effective in 50% of the population). The dose ratio between toxic and therapeutic effects is the therapeutic index and it can be expressed as the ratio between LD<sub>50</sub> and ED<sub>50</sub>. Compounds which exhibit high therapeutic indices are preferred. The data obtained from these cell culture assays and animal studies can be used in formulating a range of dosage for use in human. The dosage of such compounds lies preferably within a range of circulating concentrations that include the ED<sub>50</sub> with little or no toxicity. The dosage may vary within this range depending upon the dosage form employed and the route of administration utilized. The exact formulation, route of administration and dosage can be chosen by the individual physician in view of the patient's condition. See, *e.g.*, Fingl et al., 1975, in "The Pharmacological Basis of Therapeutics", Ch. 1 p.1. Dosage amount and interval may be adjusted individually to provide plasma levels of the active moiety which are sufficient to maintain the desired effects, or minimal effective concentration (MEC). The MEC will vary for each compound but can be estimated from *in vitro* data. Dosages necessary to achieve the MEC will depend on individual characteristics and route of administration. However, HPLC assays or bioassays can be used to determine plasma concentrations.

Dosage intervals can also be determined using MEC value. Compounds should be administered using a regimen that maintains plasma levels above the MEC for 10-90% of the time, preferably between 30-90% and most preferably between 50-90%. In cases of local administration or selective uptake, the effective local concentration of the drug may not be related to plasma concentration.

An exemplary dosage regimen for polypeptides or other compositions of the invention will be in the range of about 0.01 µg/kg to 100 mg/kg of body weight daily, with the preferred dose being about 0.1 µg/kg to 25 mg/kg of patient body weight daily, varying in adults and children. Dosing may be once daily, or equivalent doses may be delivered at longer or shorter intervals.

The amount of composition administered will, of course, be dependent on the subject being treated, on the subject's age and weight, the severity of the affliction, the manner of administration and the judgment of the prescribing physician.



#### 4.12.4 PACKAGING

The compositions may, if desired, be presented in a pack or dispenser device which may contain one or more unit dosage forms containing the active ingredient. The pack may, for example, comprise metal or plastic foil, such as a blister pack. The pack or dispenser device may be accompanied by instructions for administration. Compositions comprising a compound of the invention formulated in a compatible pharmaceutical carrier may also be prepared, placed in an appropriate container, and labeled for treatment of an indicated condition.

#### 4.13 ANTIBODIES

Also included in the invention are antibodies to proteins, or fragments of proteins of the invention. The term "antibody" as used herein refers to immunoglobulin molecules and immunologically active portions of immunoglobulin (Ig) molecules, *i.e.*, molecules that contain an antigen-binding site that specifically binds (immunoreacts with) an antigen. Such antibodies include, but are not limited to, polyclonal, monoclonal, chimeric, single chain,  $F_{ab}$ ,  $F_{ab}'$  and  $F_{(ab)2}$  fragments, and an  $F_{ab}$  expression library. In general, an antibody molecule obtained from humans relates to any of the classes IgG, IgM, IgA, IgE and IgD, which differ from one another by the nature of the heavy chain present in the molecule. Certain classes have subclasses as well, such as IgG<sub>1</sub>, IgG<sub>2</sub>, and others. Furthermore, in humans, the light chain may be a kappa chain or a lambda chain. Reference herein to antibodies includes a reference to all such classes, subclasses and types of human antibody species.

An isolated related protein of the invention may be intended to serve as an antigen, or a portion or fragment thereof, and additionally can be used as an immunogen to generate antibodies that immunospecifically bind the antigen, using standard techniques for polyclonal and monoclonal antibody preparation. The full-length protein can be used or, alternatively, the invention provides antigenic peptide fragments of the antigen for use as immunogens. An antigenic peptide fragment comprises at least 6 amino acid residues of the amino acid sequence of any of the full length proteins of the invention, and encompasses an epitope thereof such that an antibody raised against the peptide forms a specific immune complex with the full length protein or with any fragment that contains the epitope. Preferably, the antigenic peptide comprises at least 10 amino acid residues, or at least 15 amino acid residues, or at least 20 amino acid residues, or at least 30 amino acid residues. Preferred epitopes encompassed by the antigenic peptide are regions of the protein that are located on its surface; commonly these are hydrophilic regions.

In certain embodiments of the invention, at least one epitope encompassed by the antigenic peptide is a region on the surface of the protein of the invention, *e.g.*, a hydrophilic

region. A hydrophobicity analysis of the human related protein sequence will indicate which regions of a related protein are particularly hydrophilic and, therefore, are likely to encode surface residues useful for targeting antibody production. As a means for targeting antibody production, hydropathy plots showing regions of hydrophilicity and hydrophobicity may be  
5 generated by any method well known in the art, including, for example, the Kyte Doolittle or the Hopp Woods methods, either with or without Fourier transformation. See, *e.g.*, Hopp and Woods, 1981, *Proc. Nat. Acad. Sci. USA* 78: 3824-3828; Kyte and Doolittle 1982, *J. Mol. Biol.* 157: 105-142, each of which is incorporated herein by reference in its entirety. Antibodies that are specific for one or more domains within an antigenic protein, or derivatives, fragments,  
10 analogs or homologs thereof, are also provided herein.

A protein of the invention, or a derivative, fragment, analog, homolog or ortholog thereof, may be utilized as an immunogen in the generation of antibodies that immunospecifically bind these protein components.

Various procedures known within the art may be used for the production of polyclonal or  
15 monoclonal antibodies directed against a protein of the invention, or against derivatives, fragments, analogs homologs or orthologs thereof (see, for example, *Antibodies: A Laboratory Manual*, Harlow E, and Lane D, 1988, Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, incorporated herein by reference). Some of these antibodies are discussed below.

#### 20 5.13.1 Polyclonal Antibodies

For the production of polyclonal antibodies, various suitable host animals (*e.g.*, rabbit, goat, mouse or other mammal) may be immunized by one or more injections with the native protein, a synthetic variant thereof, or a derivative of the foregoing. An appropriate immunogenic preparation can contain, for example, the naturally occurring immunogenic  
25 protein, a chemically synthesized polypeptide representing the immunogenic protein, or a recombinantly expressed immunogenic protein. Furthermore, the protein may be conjugated to a second protein known to be immunogenic in the mammal being immunized. Examples of such immunogenic proteins include but are not limited to keyhole limpet hemocyanin, serum albumin, bovine thyroglobulin, and soybean trypsin inhibitor. The preparation can further include an  
30 adjuvant. Various adjuvants used to increase the immunological response include, but are not limited to, Freund's (complete and incomplete), mineral gels (*e.g.*, aluminum hydroxide), surface active substances (*e.g.*, lysolecithin, pluronic polyols, polyanions, peptides, oil emulsions, dinitrophenol, etc.), adjuvants usable in humans such as Bacille Calmette-Guerin and *Corynebacterium parvum*, or similar immunostimulatory agents. Additional examples of

adjuvants which can be employed include MPL-TDM adjuvant (monophosphoryl Lipid A, synthetic trehalose dicorynomycolate).

The polyclonal antibody molecules directed against the immunogenic protein can be isolated from the mammal (*e.g.*, from the blood) and further purified by well known techniques, such as affinity chromatography using protein A or protein G, which provide primarily the IgG fraction of immune serum. Subsequently, or alternatively, the specific antigen which is the target of the immunoglobulin sought, or an epitope thereof, may be immobilized on a column to purify the immune specific antibody by immunoaffinity chromatography. Purification of immunoglobulins is discussed, for example, by D. Wilkinson (The Scientist, published by The Scientist, Inc., Philadelphia PA, Vol. 14, No. 8 (April 17, 2000), pp. 25-28).

### 5.13.2 Monoclonal Antibodies

The term "monoclonal antibody" (MAb) or "monoclonal antibody composition", as used herein, refers to a population of antibody molecules that contain only one molecular species of antibody molecule consisting of a unique light chain gene product and a unique heavy chain gene product. In particular, the complementarity determining regions (CDRs) of the monoclonal antibody are identical in all the molecules of the population. MAbs thus contain an antigen-binding site capable of immunoreacting with a particular epitope of the antigen characterized by a unique binding affinity for it.

Monoclonal antibodies can be prepared using hybridoma methods, such as those described by Kohler and Milstein, Nature, 256:495 (1975). In a hybridoma method, a mouse, hamster, or other appropriate host animal, is typically immunized with an immunizing agent to elicit lymphocytes that produce or are capable of producing antibodies that will specifically bind to the immunizing agent. Alternatively, the lymphocytes can be immunized in vitro.

The immunizing agent will typically include the protein antigen, a fragment thereof or a fusion protein thereof. Generally, either peripheral blood lymphocytes are used if cells of human origin are desired, or spleen cells or lymph node cells are used if non-human mammalian sources are desired. The lymphocytes are then fused with an immortalized cell line using a suitable fusing agent, such as polyethylene glycol, to form a hybridoma cell (Goding, Monoclonal Antibodies: Principles and Practice, Academic Press, (1986) pp. 59-103). Immortalized cell lines are usually transformed mammalian cells, particularly myeloma cells of rodent, bovine and human origin. Usually, rat or mouse myeloma cell lines are employed. The hybridoma cells can be cultured in a suitable culture medium that preferably contains one or more substances that inhibit the growth or survival of the unfused, immortalized cells. For example, if the parental cells lack the enzyme hypoxanthine guanine phosphoribosyl transferase (HGPRT or HPRT), the

culture medium for the hybridomas typically will include hypoxanthine, aminopterin, and thymidine ("HAT medium"), which substances prevent the growth of HGPRT-deficient cells.

Preferred immortalized cell lines are those that fuse efficiently, support stable high level expression of antibody by the selected antibody-producing cells, and are sensitive to a medium such as HAT medium. More preferred immortalized cell lines are murine myeloma lines, which can be obtained, for instance, from the Salk Institute Cell Distribution Center, San Diego, California and the American Type Culture Collection, Manassas, Virginia. Human myeloma and mouse-human heteromyeloma cell lines also have been described for the production of human monoclonal antibodies (Kozbor, J. Immunol., 133:3001 (1984); Brodeur et al., Monoclonal Antibody Production Techniques and Applications, Marcel Dekker, Inc., New York, (1987) pp. 51-63).

The culture medium in which the hybridoma cells are cultured can then be assayed for the presence of monoclonal antibodies directed against the antigen. Preferably, the binding specificity of monoclonal antibodies produced by the hybridoma cells is determined by immunoprecipitation or by an in vitro binding assay, such as radioimmunoassay (RIA) or enzyme-linked immunoabsorbent assay (ELISA). Such techniques and assays are known in the art. The binding affinity of the monoclonal antibody can, for example, be determined by the Scatchard analysis of Munson and Pollard, Anal. Biochem., 107:220 (1980). Preferably, antibodies having a high degree of specificity and a high binding affinity for the target antigen are isolated.

After the desired hybridoma cells are identified, the clones can be subcloned by limiting dilution procedures and grown by standard methods. Suitable culture media for this purpose include, for example, Dulbecco's Modified Eagle's Medium and RPMI-1640 medium. Alternatively, the hybridoma cells can be grown in vivo as ascites in a mammal.

The monoclonal antibodies secreted by the subclones can be isolated or purified from the culture medium or ascites fluid by conventional immunoglobulin purification procedures such as, for example, protein A-Sepharose, hydroxylapatite chromatography, gel electrophoresis, dialysis, or affinity chromatography.

The monoclonal antibodies can also be made by recombinant DNA methods, such as those described in U.S. Patent No. 4,816,567. DNA encoding the monoclonal antibodies of the invention can be readily isolated and sequenced using conventional procedures (e.g., by using oligonucleotide probes that are capable of binding specifically to genes encoding the heavy and light chains of murine antibodies). The hybridoma cells of the invention serve as a preferred source of such DNA. Once isolated, the DNA can be placed into expression vectors, which are then transfected into host cells such as simian COS cells, Chinese hamster ovary (CHO) cells, or

myeloma cells that do not otherwise produce immunoglobulin protein, to obtain the synthesis of monoclonal antibodies in the recombinant host cells. The DNA also can be modified, for example, by substituting the coding sequence for human heavy and light chain constant domains in place of the homologous murine sequences (U.S. Patent No. 4,816,567; Morrison, Nature 368, 812-13 (1994)) or by covalently joining to the immunoglobulin coding sequence all or part of the coding sequence for a non-immunoglobulin polypeptide. Such a non-immunoglobulin polypeptide can be substituted for the constant domains of an antibody of the invention, or can be substituted for the variable domains of one antigen-combining site of an antibody of the invention to create a chimeric bivalent antibody.

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### 5.13.2 Humanized Antibodies

The antibodies directed against the protein antigens of the invention can further comprise humanized antibodies or human antibodies. These antibodies are suitable for administration to humans without engendering an immune response by the human against the administered immunoglobulin. Humanized forms of antibodies are chimeric immunoglobulins, immunoglobulin chains or fragments thereof (such as Fv, Fab, Fab', F(ab')<sub>2</sub> or other antigen-binding subsequences of antibodies) that are principally comprised of the sequence of a human immunoglobulin, and contain minimal sequence derived from a non-human immunoglobulin. Humanization can be performed following the method of Winter and co-workers (Jones et al., Nature, 321:522-525 (1986); Riechmann et al., Nature, 332:323-327 (1988); Verhoeven et al., Science, 239:1534-1536 (1988)), by substituting rodent CDRs or CDR sequences for the corresponding sequences of a human antibody. (See also U.S. Patent No. 5,225,539.) In some instances, Fv framework residues of the human immunoglobulin are replaced by corresponding non-human residues. Humanized antibodies can also comprise residues which are found neither in the recipient antibody nor in the imported CDR or framework sequences. In general, the humanized antibody will comprise substantially all of at least one, and typically two, variable domains, in which all or substantially all of the CDR regions correspond to those of a non-human immunoglobulin and all or substantially all of the framework regions are those of a human immunoglobulin consensus sequence. The humanized antibody optimally also will comprise at least a portion of an immunoglobulin constant region (Fc), typically that of a human immunoglobulin (Jones et al., 1986; Riechmann et al., 1988; and Presta, Curr. Op. Struct. Biol., 2:593-596 (1992)).

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### 5.13.3 Human Antibodies

Fully human antibodies relate to antibody molecules in which essentially the entire sequences of both the light chain and the heavy chain, including the CDRs, arise from human genes. Such antibodies are termed "human antibodies", or "fully human antibodies" herein. Human monoclonal antibodies can be prepared by the trioma technique; the human B-cell hybridoma technique (see Kozbor, et al., 1983 Immunol Today 4: 72) and the EBV hybridoma technique to produce human monoclonal antibodies (see Cole, et al., 1985 In: MONOCLONAL ANTIBODIES AND CANCER THERAPY, Alan R. Liss, Inc., pp. 77-96). Human monoclonal antibodies may be utilized in the practice of the present invention and may be produced by using human hybridomas (see Cote, et al., 1983. Proc Natl Acad Sci USA 80: 2026-2030) or by transforming human B-cells with Epstein Barr Virus in vitro (see Cole, et al., 1985 In: MONOCLONAL ANTIBODIES AND CANCER THERAPY, Alan R. Liss, Inc., pp. 77-96).

In addition, human antibodies can also be produced using additional techniques, including phage display libraries (Hoogenboom and Winter, J. Mol. Biol., 227:381 (1991); Marks et al., J. Mol. Biol., 222:581 (1991)). Similarly, human antibodies can be made by introducing human immunoglobulin loci into transgenic animals, e.g., mice in which the endogenous immunoglobulin genes have been partially or completely inactivated. Upon challenge, human antibody production is observed, which closely resembles that seen in humans in all respects, including gene rearrangement, assembly, and antibody repertoire. This approach is described, for example, in U.S. Patent Nos. 5,545,807; 5,545,806; 5,569,825; 5,625,126; 5,633,425; 5,661,016, and in Marks et al. (Bio/Technology 10, 779-783 (1992)); Lonberg et al. (Nature 368 856-859 (1994)); Morrison (Nature 368, 812-13 (1994)); Fishwild et al. (Nature Biotechnology 14, 845-51 (1996)); Neuberger (Nature Biotechnology 14, 826 (1996)); and Lonberg and Huszar (Intern. Rev. Immunol. 13 65-93 (1995)).

Human antibodies may additionally be produced using transgenic nonhuman animals which are modified so as to produce fully human antibodies rather than the animal's endogenous antibodies in response to challenge by an antigen. (See PCT publication WO94/02602). The endogenous genes encoding the heavy and light immunoglobulin chains in the nonhuman host have been incapacitated, and active loci encoding human heavy and light chain immunoglobulins are inserted into the host's genome. The human genes are incorporated, for example, using yeast artificial chromosomes containing the requisite human DNA segments. An animal which provides all the desired modifications is then obtained as progeny by crossbreeding intermediate transgenic animals containing fewer than the full complement of the modifications. The preferred embodiment of such a nonhuman animal is a mouse, and is termed the Xenomouse<sup>TM</sup> as disclosed in PCT publications WO 96/33735 and WO 96/34096. This animal produces B cells which secrete fully human immunoglobulins. The antibodies can be obtained directly from

the animal after immunization with an immunogen of interest, as, for example, a preparation of a polyclonal antibody, or alternatively from immortalized B cells derived from the animal, such as hybridomas producing monoclonal antibodies. Additionally, the genes encoding the immunoglobulins with human variable regions can be recovered and expressed to obtain the antibodies directly, or can be further modified to obtain analogs of antibodies such as, for example, single chain Fv molecules.

An example of a method of producing a nonhuman host, exemplified as a mouse, lacking expression of an endogenous immunoglobulin heavy chain is disclosed in U.S. Patent No. 5,939,598. It can be obtained by a method including deleting the J segment genes from at least one endogenous heavy chain locus in an embryonic stem cell to prevent rearrangement of the locus and to prevent formation of a transcript of a rearranged immunoglobulin heavy chain locus, the deletion being effected by a targeting vector containing a gene encoding a selectable marker; and producing from the embryonic stem cell a transgenic mouse whose somatic and germ cells contain the gene encoding the selectable marker.

A method for producing an antibody of interest, such as a human antibody, is disclosed in U.S. Patent No. 5,916,771. It includes introducing an expression vector that contains a nucleotide sequence encoding a heavy chain into one mammalian host cell in culture, introducing an expression vector containing a nucleotide sequence encoding a light chain into another mammalian host cell, and fusing the two cells to form a hybrid cell. The hybrid cell expresses an antibody containing the heavy chain and the light chain.

In a further improvement on this procedure, a method for identifying a clinically relevant epitope on an immunogen, and a correlative method for selecting an antibody that binds immunospecifically to the relevant epitope with high affinity, are disclosed in PCT publication WO 99/53049.

#### 5.13.4 F<sub>ab</sub> Fragments and Single Chain Antibodies

According to the invention, techniques can be adapted for the production of single-chain antibodies specific to an antigenic protein of the invention (see *e.g.*, U.S. Patent No. 4,946,778). In addition, methods can be adapted for the construction of F<sub>ab</sub> expression libraries (see *e.g.*, Huse, et al., 1989 Science 246: 1275-1281) to allow rapid and effective identification of monoclonal F<sub>ab</sub> fragments with the desired specificity for a protein or derivatives, fragments, analogs or homologs thereof. Antibody fragments that contain the idiotypes to a protein antigen may be produced by techniques known in the art including, but not limited to: (i) an F<sub>(ab)2</sub> fragment produced by pepsin digestion of an antibody molecule; (ii) an F<sub>ab</sub> fragment generated

by reducing the disulfide bridges of an  $F_{(ab)}_2$  fragment; (iii) an  $F_{ab}$  fragment generated by the treatment of the antibody molecule with papain and a reducing agent and (iv)  $F_v$  fragments.

### 5.13.5 Bispecific Antibodies

5 Bispecific antibodies are monoclonal, preferably human or humanized, antibodies that have binding specificities for at least two different antigens. In the present case, one of the binding specificities is for an antigenic protein of the invention. The second binding target is any other antigen, and advantageously is a cell-surface protein or receptor or receptor subunit.

Methods for making bispecific antibodies are known in the art. Traditionally, the  
10 recombinant production of bispecific antibodies is based on the co-expression of two immunoglobulin heavy-chain/light-chain pairs, where the two heavy chains have different specificities (Milstein and Cuello, *Nature*, 305:537-539 (1983)). Because of the random assortment of immunoglobulin heavy and light chains, these hybridomas (quadromas) produce a potential mixture of ten different antibody molecules, of which only one has the correct  
15 bispecific structure. The purification of the correct molecule is usually accomplished by affinity chromatography steps. Similar procedures are disclosed in WO 93/08829, published 13 May 1993, and in Traunecker *et al.*, 1991 *EMBO J.*, 10:3655-3659.

Antibody variable domains with the desired binding specificities (antibody-antigen combining sites) can be fused to immunoglobulin constant domain sequences. The fusion  
20 preferably is with an immunoglobulin heavy-chain constant domain, comprising at least part of the hinge, CH2, and CH3 regions. It is preferred to have the first heavy-chain constant region (CH1) containing the site necessary for light-chain binding present in at least one of the fusions. DNAs encoding the immunoglobulin heavy-chain fusions and, if desired, the immunoglobulin light chain, are inserted into separate expression vectors, and are co-transfected into a suitable  
25 host organism. For further details of generating bispecific antibodies see, for example, Suresh *et al.*, *Methods in Enzymology*, 121:210 (1986).

According to another approach described in WO 96/27011, the interface between a pair of antibody molecules can be engineered to maximize the percentage of heterodimers which are recovered from recombinant cell culture. The preferred interface comprises at least a part of the  
30 CH3 region of an antibody constant domain. In this method, one or more small amino acid side chains from the interface of the first antibody molecule are replaced with larger side chains (*e.g.* tyrosine or tryptophan). Compensatory "cavities" of identical or similar size to the large side chain(s) are created on the interface of the second antibody molecule by replacing large amino acid side chains with smaller ones (*e.g.* alanine or threonine). This provides a mechanism for  
35 increasing the yield of the heterodimer over other unwanted end-products such as homodimers.



Bispecific antibodies can be prepared as full length antibodies or antibody fragments (*e.g.*  $F(ab')_2$  bispecific antibodies). Techniques for generating bispecific antibodies from antibody fragments have been described in the literature. For example, bispecific antibodies can be prepared using chemical linkage. Brennan et al., Science 229:81 (1985) describe a procedure wherein intact antibodies are proteolytically cleaved to generate  $F(ab')_2$  fragments. These fragments are reduced in the presence of the dithiol complexing agent sodium arsenite to stabilize vicinal dithiols and prevent intermolecular disulfide formation. The  $Fab'$  fragments generated are then converted to thionitrobenzoate (TNB) derivatives. One of the  $Fab'$ -TNB derivatives is then reconverted to the  $Fab'$ -thiol by reduction with mercaptoethylamine and is mixed with an equimolar amount of the other  $Fab'$ -TNB derivative to form the bispecific antibody. The bispecific antibodies produced can be used as agents for the selective immobilization of enzymes.

Additionally,  $Fab'$  fragments can be directly recovered from *E. coli* and chemically coupled to form bispecific antibodies. Shalaby et al., J. Exp. Med. 175:217-225 (1992) describe the production of a fully humanized bispecific antibody  $F(ab')_2$  molecule. Each  $Fab'$  fragment was separately secreted from *E. coli* and subjected to directed chemical coupling *in vitro* to form the bispecific antibody. The bispecific antibody thus formed was able to bind to cells overexpressing the ErbB2 receptor and normal human T cells, as well as trigger the lytic activity of human cytotoxic lymphocytes against human breast tumor targets.

Various techniques for making and isolating bispecific antibody fragments directly from recombinant cell culture have also been described. For example, bispecific antibodies have been produced using leucine zippers. Kostelny et al., J. Immunol. 148(5):1547-1553 (1992). The leucine zipper peptides from the Fos and Jun proteins were linked to the  $Fab'$  portions of two different antibodies by gene fusion. The antibody homodimers were reduced at the hinge region to form monomers and then re-oxidized to form the antibody heterodimers. This method can also be utilized for the production of antibody homodimers. The "diabody" technology described by Hollinger et al., Proc. Natl. Acad. Sci. USA 90:6444-6448 (1993) has provided an alternative mechanism for making bispecific antibody fragments. The fragments comprise a heavy-chain variable domain ( $V_H$ ) connected to a light-chain variable domain ( $V_L$ ) by a linker which is too short to allow pairing between the two domains on the same chain. Accordingly, the  $V_H$  and  $V_L$  domains of one fragment are forced to pair with the complementary  $V_L$  and  $V_H$  domains of another fragment, thereby forming two antigen-binding sites. Another strategy for making bispecific antibody fragments by the use of single-chain  $F_v$  ( $sF_v$ ) dimers has also been reported. See, Gruber et al., J. Immunol. 152:5368 (1994).

Antibodies with more than two valencies are contemplated. For example, trispecific antibodies can be prepared. Tutt et al., *J. Immunol.* 147:60 (1991).

Exemplary bispecific antibodies can bind to two different epitopes, at least one of which originates in the protein antigen of the invention. Alternatively, an anti-antigenic arm of an immunoglobulin molecule can be combined with an arm which binds to a triggering molecule on a leukocyte such as a T-cell receptor molecule (*e.g.* CD2, CD3, CD28, or B7), or Fc receptors for IgG (FcγR), such as FcγRI (CD64), FcγRII (CD32) and FcγRIII (CD16) so as to focus cellular defense mechanisms to the cell expressing the particular antigen. Bispecific antibodies can also be used to direct cytotoxic agents to cells which express a particular antigen. These antibodies possess an antigen-binding arm and an arm which binds a cytotoxic agent or a radionuclide chelator, such as EOTUBE, DPTA, DOTA, or TETA. Another bispecific antibody of interest binds the protein antigen described herein and further binds tissue factor (TF).

#### 5.13.6 Heteroconjugate Antibodies

Heteroconjugate antibodies are also within the scope of the present invention. Heteroconjugate antibodies are composed of two covalently joined antibodies. Such antibodies have, for example, been proposed to target immune system cells to unwanted cells (U.S. Patent No. 4,676,980), and for treatment of HIV infection (WO 91/00360; WO 92/200373; EP 03089). It is contemplated that the antibodies can be prepared in vitro using known methods in synthetic protein chemistry, including those involving crosslinking agents. For example, immunotoxins can be constructed using a disulfide exchange reaction or by forming a thioether bond. Examples of suitable reagents for this purpose include iminothiolate and methyl-4-mercaptopbutyrimidate and those disclosed, for example, in U.S. Patent No. 4,676,980.

#### 5.13.7 Effector Function Engineering

It can be desirable to modify the antibody of the invention with respect to effector function, so as to enhance, *e.g.*, the effectiveness of the antibody in treating cancer. For example, cysteine residue(s) can be introduced into the Fc region, thereby allowing interchain disulfide bond formation in this region. The homodimeric antibody thus generated can have improved internalization capability and/or increased complement-mediated cell killing and antibody-dependent cellular cytotoxicity (ADCC). See Caron et al., *J. Exp Med.*, 176: 1191-1195 (1992) and Shopes, *J. Immunol.*, 148: 2918-2922 (1992). Homodimeric antibodies with enhanced anti-tumor activity can also be prepared using heterobifunctional cross-linkers as described in Wolff et al. *Cancer Research*, 53: 2560-2565 (1993). Alternatively, an antibody can

be engineered that has dual Fc regions and can thereby have enhanced complement lysis and ADCC capabilities. See Stevenson et al., *Anti-Cancer Drug Design*, 3: 219-230 (1989).

#### 5.13.8 Immunoconjugates

5 The invention also pertains to immunoconjugates comprising an antibody conjugated to a cytotoxic agent such as a chemotherapeutic agent, toxin (*e.g.*, an enzymatically active toxin of bacterial, fungal, plant, or animal origin, or fragments thereof), or a radioactive isotope (*i.e.*, a radioconjugate).

Chemotherapeutic agents useful in the generation of such immunoconjugates have been  
10 described above. Enzymatically active toxins and fragments thereof that can be used include diphtheria A chain, nonbinding active fragments of diphtheria toxin, exotoxin A chain (from *Pseudomonas aeruginosa*), ricin A chain, abrin A chain, modeccin A chain, alpha-sarcin, Aleurites fordii proteins, dianthin proteins, Phytolaca americana proteins (PAPI, PAPII, and PAP-S), momordica charantia inhibitor, curcin, crotin, sapaonaria officinalis inhibitor, gelonin,  
15 mitogellin, restrictocin, phenomycin, enomycin, and the tricothecenes. A variety of radionuclides are available for the production of radioconjugated antibodies. Examples include  $^{212}\text{Bi}$ ,  $^{131}\text{I}$ ,  $^{131}\text{In}$ ,  $^{90}\text{Y}$ , and  $^{186}\text{Re}$ .

Conjugates of the antibody and cytotoxic agent are made using a variety of bifunctional protein-coupling agents such as N-succinimidyl-3-(2-pyridyldithiol) propionate (SPDP),  
20 iminothiolane (IT), bifunctional derivatives of imidoesters (such as dimethyl adipimidate HCL), active esters (such as disuccinimidyl suberate), aldehydes (such as glutaraldehyde), bis-azido compounds (such as bis (p-azidobenzoyl) hexanediamine), bis-diazonium derivatives (such as bis-(p-diazoniumbenzoyl)-ethylenediamine), diisocyanates (such as tolyene 2,6-diisocyanate), and bis-active fluorine compounds (such as 1,5-difluoro-2,4-dinitrobenzene). For example, a  
25 ricin immunotoxin can be prepared as described in Vitetta et al., *Science*, 238: 1098 (1987). Carbon-14-labeled 1-isothiocyanatobenzyl-3-methyldiethylene triaminepentaacetic acid (MX-DTPA) is an exemplary chelating agent for conjugation of radionucleotide to the antibody. See WO94/11026.

In another embodiment, the antibody can be conjugated to a "receptor" (such  
30 streptavidin) for utilization in tumor pretargeting wherein the antibody-receptor conjugate is administered to the patient, followed by removal of unbound conjugate from the circulation using a clearing agent and then administration of a "ligand" (*e.g.*, avidin) that is in turn conjugated to a cytotoxic agent.

#### 35 4.14 COMPUTER READABLE SEQUENCES

In one application of this embodiment, a nucleotide sequence of the present invention can be recorded on computer readable media. As used herein, "computer readable media" refers to any medium which can be read and accessed directly by a computer. Such media include, but are not limited to: magnetic storage media, such as floppy discs, hard disc storage medium, and magnetic tape; optical storage media such as CD-ROM; electrical storage media such as RAM and ROM; and hybrids of these categories such as magnetic/optical storage media. A skilled artisan can readily appreciate how any of the presently known computer readable mediums can be used to create a manufacture comprising computer readable medium having recorded thereon a nucleotide sequence of the present invention. As used herein, "recorded" refers to a process for storing information on computer readable medium. A skilled artisan can readily adopt any of the presently known methods for recording information on computer readable medium to generate manufactures comprising the nucleotide sequence information of the present invention.

A variety of data storage structures are available to a skilled artisan for creating a computer readable medium having recorded thereon a nucleotide sequence of the present invention. The choice of the data storage structure will generally be based on the means chosen to access the stored information. In addition, a variety of data processor programs and formats can be used to store the nucleotide sequence information of the present invention on computer readable medium. The sequence information can be represented in a word processing text file, formatted in commercially-available software such as WordPerfect and Microsoft Word, or represented in the form of an ASCII file, stored in a database application, such as DB2, Sybase, Oracle, or the like. A skilled artisan can readily adapt any number of data processor structuring formats (e.g. text file or database) in order to obtain computer readable medium having recorded thereon the nucleotide sequence information of the present invention.

By providing any of the nucleotide sequences SEQ ID NO: 1-8051 or a representative fragment thereof; or a nucleotide sequence at least 95% identical to any of the nucleotide sequences of SEQ ID NO: 1-8051 in computer readable form, a skilled artisan can routinely access the sequence information for a variety of purposes. Computer software is publicly available which allows a skilled artisan to access sequence information provided in a computer readable medium. The examples which follow demonstrate how software which implements the BLAST (Altschul et al., J. Mol. Biol. 215:403-410 (1990)) and BLAZE (Brutlag et al., Comp. Chem. 17:203-207 (1993)) search algorithms on a Sybase system is used to identify open reading frames (ORFs) within a nucleic acid sequence. Such ORFs may be protein encoding fragments and may be useful in producing commercially important proteins such as enzymes used in fermentation reactions and in the production of commercially useful metabolites.

As used herein, "a computer-based system" refers to the hardware means, software means, and data storage means used to analyze the nucleotide sequence information of the present invention. The minimum hardware means of the computer-based systems of the present invention comprises a central processing unit (CPU), input means, output means, and data storage means. A skilled artisan can readily appreciate that any one of the currently available computer-based systems are suitable for use in the present invention. As stated above, the computer-based systems of the present invention comprise a data storage means having stored therein a nucleotide sequence of the present invention and the necessary hardware means and software means for supporting and implementing a search means. As used herein, "data storage means" refers to memory which can store nucleotide sequence information of the present invention, or a memory access means which can access manufactures having recorded thereon the nucleotide sequence information of the present invention.

As used herein, "search means" refers to one or more programs which are implemented on the computer-based system to compare a target sequence or target structural motif with the sequence information stored within the data storage means. Search means are used to identify fragments or regions of a known sequence which match a particular target sequence or target motif. A variety of known algorithms are disclosed publicly and a variety of commercially available software for conducting search means are and can be used in the computer-based systems of the present invention. Examples of such software includes, but is not limited to, Smith-Waterman, MacPattern (EMBL), BLASTN and BLASTA (NPOLYPEPTIDEIA). A skilled artisan can readily recognize that any one of the available algorithms or implementing software packages for conducting homology searches can be adapted for use in the present computer-based systems. As used herein, a "target sequence" can be any nucleic acid or amino acid sequence of six or more nucleotides or two or more amino acids. A skilled artisan can readily recognize that the longer a target sequence is, the less likely a target sequence will be present as a random occurrence in the database. The most preferred sequence length of a target sequence is from about 10 to 300 amino acids, more preferably from about 30 to 100 nucleotide residues. However, it is well recognized that searches for commercially important fragments, such as sequence fragments involved in gene expression and protein processing, may be of shorter length.

As used herein, "a target structural motif," or "target motif," refers to any rationally selected sequence or combination of sequences in which the sequence(s) are chosen based on a three-dimensional configuration which is formed upon the folding of the target motif. There are a variety of target motifs known in the art. Protein target motifs include, but are not limited to, enzyme active sites and signal sequences. Nucleic acid target motifs include, but are not limited

to, promoter sequences, hairpin structures and inducible expression elements (protein binding sequences).

#### 4.15 TRIPLE HELIX FORMATION

5 In addition, the fragments of the present invention, as broadly described, can be used to control gene expression through triple helix formation or antisense DNA or RNA, both of which methods are based on the binding of a polynucleotide sequence to DNA or RNA. Polynucleotides suitable for use in these methods are preferably 20 to 40 bases in length and are designed to be complementary to a region of the gene involved in transcription (triple helix - see 10 Lee et al., Nucl. Acids Res. 6:3073 (1979); Cooney et al., Science 15241:456 (1988); and Dervan et al., Science 251:1360 (1991)) or to the mRNA itself (antisense - Olmno, J. Neurochem. 56:560 (1991); Oligodeoxynucleotides as Antisense Inhibitors of Gene Expression, CRC Press, Boca Raton, FL (1988)). Triple helix-formation optimally results in a shut-off of RNA transcription from DNA, while antisense RNA hybridization blocks translation of an mRNA 15 molecule into polypeptide. Both techniques have been demonstrated to be effective in model systems. Information contained in the sequences of the present invention is necessary for the design of an antisense or triple helix oligonucleotide.

#### 4.16 DIAGNOSTIC ASSAYS AND KITS

20 The present invention further provides methods to identify the presence or expression of one of the ORFs of the present invention, or homolog thereof, in a test sample, using a nucleic acid probe or antibodies of the present invention, optionally conjugated or otherwise associated with a suitable label.

In general, methods for detecting a polynucleotide of the invention can comprise 25 contacting a sample with a compound that binds to and forms a complex with the polynucleotide for a period sufficient to form the complex, and detecting the complex, so that if a complex is detected, a polynucleotide of the invention is detected in the sample. Such methods can also comprise contacting a sample under stringent hybridization conditions with nucleic acid primers that anneal to a polynucleotide of the invention under such conditions, and amplifying annealed 30 polynucleotides, so that if a polynucleotide is amplified, a polynucleotide of the invention is detected in the sample.

In general, methods for detecting a polypeptide of the invention can comprise contacting a sample with a compound that binds to and forms a complex with the polypeptide for a period sufficient to form the complex, and detecting the complex, so that if a complex is detected, a 35 polypeptide of the invention is detected in the sample.

In detail, such methods comprise incubating a test sample with one or more of the antibodies or one or more of the nucleic acid probes of the present invention and assaying for binding of the nucleic acid probes or antibodies to components within the test sample.

Conditions for incubating a nucleic acid probe or antibody with a test sample vary.

5 Incubation conditions depend on the format employed in the assay, the detection methods employed, and the type and nature of the nucleic acid probe or antibody used in the assay. One skilled in the art will recognize that any one of the commonly available hybridization, amplification or immunological assay formats can readily be adapted to employ the nucleic acid probes or antibodies of the present invention. Examples of such assays can be found in Chard,  
10 T., An Introduction to Radioimmunoassay and Related Techniques, Elsevier Science Publishers, Amsterdam, The Netherlands (1986); Bullock, G.R. et al., Techniques in Immunocytochemistry, Academic Press, Orlando, FL Vol. 1 (1982), Vol. 2 (1983), Vol. 3 (1985); Tijssen, P., Practice and Theory of immunoassays: Laboratory Techniques in Biochemistry and Molecular Biology, Elsevier Science Publishers, Amsterdam, The Netherlands (1985). The test samples of the  
15 present invention include cells, protein or membrane extracts of cells, or biological fluids such as sputum, blood, serum, plasma, or urine. The test sample used in the above-described method will vary based on the assay format, nature of the detection method and the tissues, cells or extracts used as the sample to be assayed. Methods for preparing protein extracts or membrane extracts of cells are well known in the art and can be readily be adapted in order to obtain a  
20 sample which is compatible with the system utilized.

In another embodiment of the present invention, kits are provided which contain the necessary reagents to carry out the assays of the present invention. Specifically, the invention provides a compartment kit to receive, in close confinement, one or more containers which comprises: (a) a first container comprising one of the probes or antibodies of the present  
25 invention; and (b) one or more other containers comprising one or more of the following: wash reagents, reagents capable of detecting presence of a bound probe or antibody.

In detail, a compartment kit includes any kit in which reagents are contained in separate containers. Such containers include small glass containers, plastic containers or strips of plastic or paper. Such containers allows one to efficiently transfer reagents from one compartment to  
30 another compartment such that the samples and reagents are not cross-contaminated, and the agents or solutions of each container can be added in a quantitative fashion from one compartment to another. Such containers will include a container which will accept the test sample, a container which contains the antibodies used in the assay, containers which contain wash reagents (such as phosphate buffered saline, Tris-buffers, etc.), and containers which  
35 contain the reagents used to detect the bound antibody or probe. Types of detection reagents

include labeled nucleic acid probes, labeled secondary antibodies, or in the alternative, if the primary antibody is labeled, the enzymatic, or antibody binding reagents which are capable of reacting with the labeled antibody. One skilled in the art will readily recognize that the disclosed probes and antibodies of the present invention can be readily incorporated into one of the established kit formats which are well known in the art.

#### 4.17 MEDICAL IMAGING

The novel polypeptides and binding partners of the invention are useful in medical imaging of sites expressing the molecules of the invention (*e.g.*, where the polypeptide of the invention is involved in the immune response, for imaging sites of inflammation or infection). See, *e.g.*, Kunkel et al., U.S. Pat. NO. 5,413,778. Such methods involve chemical attachment of a labeling or imaging agent, administration of the labeled polypeptide to a subject in a pharmaceutically acceptable carrier, and imaging the labeled polypeptide *in vivo* at the target site.

#### 4.18 SCREENING ASSAYS

Using the isolated proteins and polynucleotides of the invention, the present invention further provides methods of obtaining and identifying agents which bind to a polypeptide encoded by an ORF corresponding to any of the nucleotide sequences set forth in SEQ ID NO: 1-8051, or bind to a specific domain of the polypeptide encoded by the nucleic acid. In detail, said method comprises the steps of:

- (a) contacting an agent with an isolated protein encoded by an ORF of the present invention, or nucleic acid of the invention; and
- (b) determining whether the agent binds to said protein or said nucleic acid.

In general, therefore, such methods for identifying compounds that bind to a polynucleotide of the invention can comprise contacting a compound with a polynucleotide of the invention for a time sufficient to form a polynucleotide/compound complex, and detecting the complex, so that if a polynucleotide/compound complex is detected, a compound that binds to a polynucleotide of the invention is identified.

Likewise, in general, therefore, such methods for identifying compounds that bind to a polypeptide of the invention can comprise contacting a compound with a polypeptide of the invention for a time sufficient to form a polypeptide/compound complex, and detecting the complex, so that if a polypeptide/compound complex is detected, a compound that binds to a polynucleotide of the invention is identified.



Methods for identifying compounds that bind to a polypeptide of the invention can also comprise contacting a compound with a polypeptide of the invention in a cell for a time sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a receptor gene sequence in the cell, and detecting the complex by detecting reporter gene  
5 sequence expression, so that if a polypeptide/compound complex is detected, a compound that binds a polypeptide of the invention is identified.

Compounds identified via such methods can include compounds which modulate the activity of a polypeptide of the invention (that is, increase or decrease its activity, relative to activity observed in the absence of the compound). Alternatively, compounds identified via such  
10 methods can include compounds which modulate the expression of a polynucleotide of the invention (that is, increase or decrease expression relative to expression levels observed in the absence of the compound). Compounds, such as compounds identified via the methods of the invention, can be tested using standard assays well known to those of skill in the art for their ability to modulate activity/expression.

15 The agents screened in the above assay can be, but are not limited to, peptides, carbohydrates, vitamin derivatives, or other pharmaceutical agents. The agents can be selected and screened at random or rationally selected or designed using protein modeling techniques.

For random screening, agents such as peptides, carbohydrates, pharmaceutical agents and the like are selected at random and are assayed for their ability to bind to the protein encoded by  
20 the ORF of the present invention. Alternatively, agents may be rationally selected or designed. As used herein, an agent is said to be "rationally selected or designed" when the agent is chosen based on the configuration of the particular protein. For example, one skilled in the art can readily adapt currently available procedures to generate peptides, pharmaceutical agents and the like, capable of binding to a specific peptide sequence, in order to generate rationally designed  
25 antipeptide peptides, for example see Hurby et al., Application of Synthetic Peptides: Antisense Peptides," In Synthetic Peptides, A User's Guide, W.H. Freeman, NY (1992), pp. 289-307, and Kaspczak et al., Biochemistry 28:9230-8 (1989), or pharmaceutical agents, or the like.

In addition to the foregoing, one class of agents of the present invention, as broadly described, can be used to control gene expression through binding to one of the ORFs or EMFs  
30 of the present invention. As described above, such agents can be randomly screened or rationally designed/selected. Targeting the ORF or EMF allows a skilled artisan to design sequence specific or element specific agents, modulating the expression of either a single ORF or multiple ORFs which rely on the same EMF for expression control. One class of DNA binding agents are agents which contain base residues which hybridize or form a triple helix formation  
35 by binding to DNA or RNA. Such agents can be based on the classic phosphodiester,

ribonucleic acid backbone, or can be a variety of sulfhydryl or polymeric derivatives which have base attachment capacity.

Agents suitable for use in these methods preferably contain 20 to 40 bases and are designed to be complementary to a region of the gene involved in transcription (triple helix - see  
5 Lee et al., Nucl. Acids Res. 6:3073 (1979); Cooney et al., Science 241:456 (1988); and Dervan et al., Science 251:1360 (1991)) or to the mRNA itself (antisense - Okano, J. Neurochem. 56:560 (1991); Oligodeoxynucleotides as Antisense Inhibitors of Gene Expression, CRC Press, Boca Raton, FL (1988)). Triple helix-formation optimally results in a shut-off of RNA transcription from DNA, while antisense RNA hybridization blocks translation of an mRNA molecule into  
10 polypeptide. Both techniques have been demonstrated to be effective in model systems. Information contained in the sequences of the present invention is necessary for the design of an antisense or triple helix oligonucleotide and other DNA binding agents.

Agents that bind to a protein encoded by one of the ORFs of the present invention can be used as a diagnostic agent. Agents which bind to a protein encoded by one of the ORFs of the  
15 present invention can be formulated using known techniques to generate a pharmaceutical composition.

#### 4.19 USE OF NUCLEIC ACIDS AS PROBES

Another aspect of the subject invention is to provide for polypeptide-specific nucleic acid  
20 hybridization probes capable of hybridizing with naturally occurring nucleotide sequences. The hybridization probes of the subject invention may be derived from any of the nucleotide sequences SEQ ID NO: 1-8051. Because the corresponding gene is only expressed in a limited number of tissues, a hybridization probe derived from any of the nucleotide sequences SEQ ID NO: 1-8051 can be used as an indicator of the presence of RNA of cell type of such a tissue  
25 in a sample.

Any suitable hybridization technique can be employed, such as, for example, in situ hybridization. PCR as described in US Patents Nos. 4,683,195 and 4,965,188 provides additional uses for oligonucleotides based upon the nucleotide sequences. Such probes used in PCR may be of recombinant origin, may be chemically synthesized, or a mixture of both. The  
30 probe will comprise a discrete nucleotide sequence for the detection of identical sequences or a degenerate pool of possible sequences for identification of closely related genomic sequences.

Other means for producing specific hybridization probes for nucleic acids include the cloning of nucleic acid sequences into vectors for the production of mRNA probes. Such vectors are known in the art and are commercially available and may be used to synthesize RNA probes  
35 *in vitro* by means of the addition of the appropriate RNA polymerase as T7 or SP6 RNA

polymerase and the appropriate radioactively labeled nucleotides. The nucleotide sequences may be used to construct hybridization probes for mapping their respective genomic sequences. The nucleotide sequence provided herein may be mapped to a chromosome or specific regions of a chromosome using well known genetic and/or chromosomal mapping techniques. These techniques include in situ hybridization, linkage analysis against known chromosomal markers, hybridization screening with libraries or flow-sorted chromosomal preparations specific to known chromosomes, and the like. The technique of fluorescent in situ hybridization of chromosome spreads has been described, among other places, in Verma et al (1988) Human Chromosomes: A Manual of Basic Techniques, Pergamon Press, New York NY.

Fluorescent *in situ* hybridization of chromosomal preparations and other physical chromosome mapping techniques may be correlated with additional genetic map data. Examples of genetic map data can be found in the 1994 Genome Issue of Science (265:1981f). Correlation between the location of a nucleic acid on a physical chromosomal map and a specific disease (or predisposition to a specific disease) may help delimit the region of DNA associated with that genetic disease. The nucleotide sequences of the subject invention may be used to detect differences in gene sequences between normal, carrier or affected individuals.

#### 4.20 PREPARATION OF SUPPORT BOUND OLIGONUCLEOTIDES

Oligonucleotides, *i.e.*, small nucleic acid segments, may be readily prepared by, for example, directly synthesizing the oligonucleotide by chemical means, as is commonly practiced using an automated oligonucleotide synthesizer.

Support bound oligonucleotides may be prepared by any of the methods known to those of skill in the art using any suitable support such as glass, polystyrene or Teflon. One strategy is to precisely spot oligonucleotides synthesized by standard synthesizers. Immobilization can be achieved using passive adsorption (Inouye & Hondo, (1990) J. Clin. Microbiol. 28(6) 1469-72); using UV light (Nagata *et al.*, 1985; Dahlen *et al.*, 1987; Morrissey & Collins, (1989) Mol. Cell Probes 3(2) 189-207) or by covalent binding of base modified DNA (Keller *et al.*, 1988; 1989); all references being specifically incorporated herein.

Another strategy that may be employed is the use of the strong biotin-streptavidin interaction as a linker. For example, Broude *et al.* (1994) Proc. Natl. Acad. Sci. USA 91(8) 3072-6, describe the use of biotinylated probes, although these are duplex probes, that are immobilized on streptavidin-coated magnetic beads. Streptavidin-coated beads may be purchased from Dynal, Oslo. Of course, this same linking chemistry is applicable to coating any surface with streptavidin. Biotinylated probes may be purchased from various sources, such as, *e.g.*, Operon Technologies (Alameda, CA).

Nunc Laboratories (Naperville, IL) is also selling suitable material that could be used. Nunc Laboratories have developed a method by which DNA can be covalently bound to the microwell surface termed CovaLink NH. CovaLink NH is a polystyrene surface grafted with secondary amino groups (>NH) that serve as bridge-heads for further covalent coupling. CovaLink Modules may be purchased from Nunc Laboratories. DNA molecules may be bound to CovaLink exclusively at the 5'-end by a phosphoramidate bond, allowing immobilization of more than 1 pmol of DNA (Rasmussen *et al.*, (1991) *Anal. Biochem.* 198(1) 138-42).

The use of CovaLink NH strips for covalent binding of DNA molecules at the 5'-end has been described (Rasmussen *et al.*, (1991). In this technology, a phosphoramidate bond is employed (Chu *et al.*, (1983) *Nucleic Acids Res.* 11(8) 6513-29). This is beneficial as immobilization using only a single covalent bond is preferred. The phosphoramidate bond joins the DNA to the CovaLink NH secondary amino groups that are positioned at the end of spacer arms covalently grafted onto the polystyrene surface through a 2 nm long spacer arm. To link an oligonucleotide to CovaLink NH via an phosphoramidate bond, the oligonucleotide terminus must have a 5'-end phosphate group. It is, perhaps, even possible for biotin to be covalently bound to CovaLink and then streptavidin used to bind the probes.

More specifically, the linkage method includes dissolving DNA in water (7.5 ng/ul) and denaturing for 10 min. at 95°C and cooling on ice for 10 min. Ice-cold 0.1 M 1-methylimidazole, pH 7.0 (1-MeIm<sub>7</sub>), is then added to a final concentration of 10 mM 1-MeIm<sub>7</sub>. A ss DNA solution is then dispensed into CovaLink NH strips (75 ul/well) standing on ice.

Carbodiimide 0.2 M 1-ethyl-3-(3-dimethylaminopropyl)-carbodiimide (EDC), dissolved in 10 mM 1-MeIm<sub>7</sub>, is made fresh and 25 ul added per well. The strips are incubated for 5 hours at 50°C. After incubation the strips are washed using, *e.g.*, Nunc-Immuno Wash; first the wells are washed 3 times, then they are soaked with washing solution for 5 min., and finally they are washed 3 times (where in the washing solution is 0.4 N NaOH, 0.25% SDS heated to 50°C).

It is contemplated that a further suitable method for use with the present invention is that described in PCT Patent Application WO 90/03382 (Southern & Maskos), incorporated herein by reference. This method of preparing an oligonucleotide bound to a support involves attaching a nucleoside 3'-reagent through the phosphate group by a covalent phosphodiester link to aliphatic hydroxyl groups carried by the support. The oligonucleotide is then synthesized on the supported nucleoside and protecting groups removed from the synthetic oligonucleotide chain under standard conditions that do not cleave the oligonucleotide from the support. Suitable reagents include nucleoside phosphoramidite and nucleoside hydrogen phosphorate.

An on-chip strategy for the preparation of DNA probe for the preparation of DNA probe arrays may be employed. For example, addressable laser-activated photodeprotection may be

Fodor *et al.* (1991) Science 251(4995) 767-73, incorporated herein by reference. Probes may also be immobilized on nylon supports as described by Van Ness *et al.* (1991) Nucleic Acids Res. 19(12) 3345-50; or linked to Teflon using the method of Duncan & Cavalier (1988) Anal. Biochem. 169(1) 104-8; all references being specifically incorporated herein.

To link an oligonucleotide to a nylon support, as described by Van Ness *et al.* (1991), requires activation of the nylon surface via alkylation and selective activation of the 5'-amine of oligonucleotides with cyanuric chloride.

One particular way to prepare support bound oligonucleotides is to utilize the light-generated synthesis described by Pease *et al.*, (1994) PNAS USA 91(11) 5022-6, incorporated herein by reference). These authors used current photolithographic techniques to generate arrays of immobilized oligonucleotide probes (DNA chips). These methods, in which light is used to direct the synthesis of oligonucleotide probes in high-density, miniaturized arrays, utilize photolabile 5'-protected *N*-acyl-deoxynucleoside phosphoramidites, surface linker chemistry and versatile combinatorial synthesis strategies. A matrix of 256 spatially defined oligonucleotide probes may be generated in this manner.

#### 4.21 PREPARATION OF NUCLEIC ACID FRAGMENTS

The nucleic acids may be obtained from any appropriate source, such as cDNAs, genomic DNA, chromosomal DNA, microdissected chromosome bands, cosmid or YAC inserts, and RNA, including mRNA without any amplification steps. For example, Sambrook *et al.* (1989) describes three protocols for the isolation of high molecular weight DNA from mammalian cells (p. 9.14-9.23).

DNA fragments may be prepared as clones in M13, plasmid or lambda vectors and/or prepared directly from genomic DNA or cDNA by PCR or other amplification methods. Samples may be prepared or dispensed in multiwell plates. About 100-1000 ng of DNA samples may be prepared in 2-500 ml of final volume.

The nucleic acids would then be fragmented by any of the methods known to those of skill in the art including, for example, using restriction enzymes as described at 9.24-9.28 of Sambrook *et al.* (1989), shearing by ultrasound and NaOH treatment.

Low pressure shearing is also appropriate, as described by Schrieffer *et al.* (1990) Nucleic Acids Res. 18(24) 7455-6, incorporated herein by reference). In this method, DNA samples are passed through a small French pressure cell at a variety of low to intermediate pressures. A lever device allows controlled application of low to intermediate pressures to the cell. The results of

these studies indicate that low-pressure shearing is a useful alternative to sonic and enzymatic DNA fragmentation methods.

One particularly suitable way for fragmenting DNA is contemplated to be that using the two base recognition endonuclease, *Cvi*JI, described by Fitzgerald *et al.* (1992) Nucleic Acids Res.

5 20(14) 3753-62. These authors described an approach for the rapid fragmentation and fractionation of DNA into particular sizes that they contemplated to be suitable for shotgun cloning and sequencing.

The restriction endonuclease *Cvi*JI normally cleaves the recognition sequence PuGCPy between the G and C to leave blunt ends. Atypical reaction conditions, which alter the specificity of this enzyme (*Cvi*JI\*\*), yield a quasi-random distribution of DNA fragments from the small  
10 molecule pUC19 (2688 base pairs). Fitzgerald *et al.* (1992) quantitatively evaluated the randomness of this fragmentation strategy, using a *Cvi*JI\*\* digest of pUC19 that was size fractionated by a rapid gel filtration method and directly ligated, without end repair, to a lac Z minus M13 cloning vector. Sequence analysis of 76 clones showed that *Cvi*JI\*\* restricts pyGCPy and  
15 PuGCPu, in addition to PuGCPy sites, and that new sequence data is accumulated at a rate consistent with random fragmentation.

As reported in the literature, advantages of this approach compared to sonication and agarose gel fractionation include: smaller amounts of DNA are required (0.2-0.5 ug instead of 2-5 ug); and fewer steps are involved (no preligation, end repair, chemical extraction, or agarose gel  
20 electrophoresis and elution are needed).

Irrespective of the manner in which the nucleic acid fragments are obtained or prepared, it is important to denature the DNA to give single stranded pieces available for hybridization. This is achieved by incubating the DNA solution for 2-5 minutes at 80-90°C. The solution is then cooled quickly to 2°C to prevent renaturation of the DNA fragments before they are contacted with the  
25 chip. Phosphate groups must also be removed from genomic DNA by methods known in the art.

#### 4.22 PREPARATION OF DNA ARRAYS

Arrays may be prepared by spotting DNA samples on a support such as a nylon membrane. Spotting may be performed by using arrays of metal pins (the positions of which correspond to an array of wells in a microtiter plate) to repeated by transfer of about 20 nl of a DNA solution to a  
30 nylon membrane. By offset printing, a density of dots higher than the density of the wells is achieved. One to 25 dots may be accommodated in 1 mm<sup>2</sup>, depending on the type of label used. By avoiding spotting in some preselected number of rows and columns, separate subsets (subarrays) may be formed. Samples in one subarray may be the same genomic segment of DNA (or the same gene) from different individuals, or may be different, overlapped genomic clones. Each of the

subarrays may represent replica spotting of the same samples. In one example, a selected gene segment may be amplified from 64 patients. For each patient, the amplified gene segment may be in one 96-well plate (all 96 wells containing the same sample). A plate for each of the 64 patients is prepared. By using a 96-pin device, all samples may be spotted on one 8 x 12 cm membrane.

- 5 Subarrays may contain 64 samples, one from each patient. Where the 96 subarrays are identical, the dot span may be 1 mm<sup>2</sup> and there may be a 1 mm space between subarrays.

Another approach is to use membranes or plates (available from NUNC, Naperville, Illinois) which may be partitioned by physical spacers *e.g.* a plastic grid molded over the membrane, the grid being similar to the sort of membrane applied to the bottom of multiwell plates, or hydrophobic  
10 strips. A fixed physical spacer is not preferred for imaging by exposure to flat phosphor-storage screens or x-ray films.

The present invention is illustrated in the following examples. Upon consideration of the present disclosure, one of skill in the art will appreciate that many other embodiments and variations may be made in the scope of the present invention. Accordingly, it is intended that the broader  
15 aspects of the present invention not be limited to the disclosure of the following examples. The present invention is not to be limited in scope by the exemplified embodiments which are intended as illustrations of single aspects of the invention, and compositions and methods which are functionally equivalent are within the scope of the invention. Indeed, numerous modifications and variations in the practice of the invention are expected to occur to those skilled in the art upon  
20 consideration of the present preferred embodiments. Consequently, the only limitations which should be placed upon the scope of the invention are those which appear in the appended claims.

All references cited within the body of the instant specification are hereby incorporated by reference in their entirety.

## 5.0 EXAMPLES

### 25 5.1 EXAMPLE 1

#### Novel Nucleic Acid Sequences Obtained From Various Libraries

A plurality of novel nucleic acids were obtained from cDNA libraries prepared from various human tissues and in some cases isolated from a genomic library derived from human chromosome using standard PCR, SBH sequence signature analysis and Sanger sequencing techniques. The  
30 inserts of the library were amplified with PCR using primers specific for the vector sequences which flank the inserts. Clones from cDNA libraries were spotted on nylon membrane filters and screened with oligonucleotide probes (*e.g.*, 7-mers) to obtain signature sequences. The clones were clustered into groups of similar or identical sequences. Representative clones were selected for sequencing.

In some cases, the 5' sequence of the amplified inserts was then deduced using a typical Sanger sequencing protocol. PCR products were purified and subjected to fluorescent dye terminator cycle sequencing. Single pass gel sequencing was done using a 377 Applied Biosystems (ABI) sequencer to obtain the novel nucleic acid sequences. In some cases RACE (Rapid  
5 Amplification of cDNA Ends) was performed to further extend the sequence in the 5' direction.

## 5.2 EXAMPLE 2

### Novel Contigs

The novel contigs of the invention were assembled from sequences that were obtained from  
10 a cDNA library by methods described in Example 1 above, and in some cases sequences obtained from one or more public databases. The sequences for the resulting nucleic acid contigs are designated as SEQ ID NO: 1-8051 and are provided in the attached Sequence Listing. The contigs were assembled using an EST sequence as a seed. Then a recursive algorithm was used to extend the seed EST into an extended assemblage, by pulling additional sequences from different databases  
15 (i.e., Hyseq's database containing EST sequences, dbEST version 115, gb pri 115, and UniGene version 103, and exons from public domain genomic sequences predicted by GenScan) that belong to this assemblage. The algorithm terminated when there was no additional sequences from the above databases that would extend the assemblage. Further, the inclusion of component sequences into the assemblage was based on a BLASTN hit to the extending assemblage with BLAST score  
20 greater than 300 and percent identity greater than 95%.

The novel predicted polypeptides (including proteins) encoded by the novel polynucleotides (SEQ ID NO: 1-8051) of the present invention are incorporated in the attached Sequence Listing. A subset of the predicted polypeptide sequences contain an unknown amino acid; a stop codon; a possible nucleotide deletion; or a possible nucleotide insertion. These sequences have also been  
25 shown in their entirety in Table 2. Table 2 also shows the corresponding start and stop nucleotide locations to each of SEQ ID NO: 1-8051. Table 2 also indicates the method by which the polypeptide was predicted. Method A refers to a polypeptide obtained by using a software program called FASTY (available from <http://fasta.bioch.virginia.edu>) which selects a polypeptide based on a comparison of the translated novel polynucleotide to known polynucleotides (W.R. Pearson, Methods in Enzymology, 183:63-98 (1990), herein incorporated by reference). Method B refers to a polypeptide obtained by using a software program called GenScan for human/vertebrate sequences (available from Stanford University, Office of Technology Licensing) that predicts the polypeptide based on a probabilistic model of gene structure/compositional properties (C. Burge and S. Karlin, J. Mol. Biol., 268:78-94 (1997), incorporated herein by reference). Method C refers  
30



to a polypeptide obtained by using a Hyseq proprietary software program that translates the novel polynucleotide and its complementary strand into six possible amino acid sequences (forward and reverse frames) and chooses the polypeptide with the longest open reading frame.

The nearest neighbor results for SEQ ID NO: 1-8051 were obtained by a BLASTX  
5 version 2.0a1 19MP-WashU search against Genpept release 123 and Geneseq release 200110 (Derwent), using BLAST algorithm. The nearest neighbor result showed the closest homologue for SEQ ID NO: 1-8051. The nearest neighbor results for SEQ ID NO: 1-8051, having identifiable function(s) are incorporated in the attached Sequence Listing.

Using eMatrix software package (Stanford University, Stanford, CA) (Wu et al., J.  
10 Comp. Biol., Vol. 6 pp. 219-235 (1999) herein incorporated by reference), all the polypeptide sequences were examined to determine whether they had identifiable signature regions. The attached Sequence Listing provides the results obtained by eMatrix analysis for each polypeptide as follows: the signature region found in the indicated polypeptide sequences, the description of the signature, the eMatrix p-value(s) and the position(s) of the signature within the polypeptide  
15 sequence.

Using the pFam software program (Sonnhammer et al., Nucleic Acids Res., Vol. 26(1)  
pp. 320-322 (1998) herein incorporated by reference) all the polypeptide sequences were examined for domains with homology to certain peptide domains. The attached Sequence Listing provides the results obtained by pFam analysis for each polypeptide, namely: the name of  
20 the domain found, the description, the p-value and the pFam score for the identified domain within the sequence.

Tables 1 and 2 follow. Table 1 shows the various tissue sources of SEQ ID NO: 1-8051. Table 2 shows the start and stop nucleotides for the translated amino acid sequence for which each assemblage encodes. Table 2 also provides a correlation between the amino acid sequences set forth  
25 in the Sequence Listing, the nucleotide sequences set forth in the Sequence Listing and the SEQ ID NO: in USSN 09/577,408.

TABLE 1

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
adult brain	GIBCO	AB3001	53-57 119-121 205-206 229-232 311-314 318-320 328-331 340-341 360-361 382-383 398 400 433 444 448-449 455 461-465 467-468 476-479 488 501-504 506 508-513 522-526 533-535 541-542 559- 560 562 637-640 649 654-655 658 679-683 751-752 755 757-764 766 771 780-782 841-849 857 867-869 872-874 879 884-885 890 915-917 945 969 1006-1009 1031-1035 1101-1103 1110 1112 1115 1120-1121 1123 1131 1185-1190 1252 1299-1301 1303-1304 1314- 1316 1338 1355-1359 1361-1363 1382-1387 1395-1399 1447 1458- 1460 1473-1477 1479-1481 1484-1485 1489-1493 1495-1496 1498 1515 1517 1534-1535 1565-1566 1601 1603 1612 1614-1619 1621- 1622 1626 1642-1644 1646 1679 1690-1693 1695-1696 1698-1704 1706-1715 1717-1718 1726 1728-1737 1739-1748 1751-1760 1762- 1763 1768-1771 1782 1843 1847 1862-1863 1877-1880 1882-1886 1895-1901 1904-1905 1922 1976-1991 2023 2034 2171-2174 2182- 2184 2200-2203 2220-2223 2232-2233 2250 2332-2339 2347-2350 2352-2356 2359-2361 2371-2372 2375 2380 2383-2384 2386-2388 2466-2469 2485-2489 2533 2547-2550 2575 2585-2586 2588-2589 2602 2682-2686 2688 2714-2715 2737 2739-2741 2744-2745 2789- 2791 2798-2802 2839-2841 2899 2910-2918 2920-2922 2924 2952- 2955 3043-3050 3095-3096 3101-3102 3104-3105 3109-3110 3116- 3117 3134-3135 3179-3180 3223-3224 3236-3237 3260-3261 3265 3271-3272 3280-3282 3311 3325 3349-3350 3354 3393-3395 3397- 3400 3491-3493 3499-3503 3517-3519 3521-3523 3560 3581-3582 3588-3589 3592-3596 3617-3619 3631 3683 3696 3698-3702 3762- 3763 3801 3805 3834-3835 3837-3838 3850-3855 3866 3944 3955 3967 3979-3985 3990 4017-4020 4081 4098 4100-4103 4126-4127 4189-4190 4193 4226 4266-4269 4271-4272 4298-4301 4303 4320- 4323 4325 4341 4344-4345 4347-4349 4427-4428 4436 4454 4537- 4541 4543 4549-4550 4552-4554 4564-4567 4576 4580-4591 4599 4610 4698 4710 4806-4808 4810 4812 4833 4847-4853 4884-4885 4910 4940-4941 4943-4944 4952 4954-4958 4972 5033-5038 5040- 5044 5056-5060 5062 5105 5116 5137 5141 5158-5161 5163 5166- 5167 5226-5227 5229-5233 5236-5238 5240-5249 5252-5261 5263- 5267 5272 5274 5340-5341 5478-5480 5525 5546-5547 5566-5570 5581 5628-5634 5644 5760 5771 5782 5872 5881-5887 5904 5911 5971-5976 6003 6007 6037-6038 6074 6124-6128 6189 6191-6194 6198 6231-6233 6249-6250 6339-6340 6360 6413-6414 6553-6556 6586-6587 6656 6681 6722-6727 6729-6736 6771 6782 6794 6805 6903 6906 6939-6942 7044-7051 7053 7055-7056 7087-7089 7116 7131 7254-7255 7294 7340 7377-7379 7662 7677 7686 7697 7730 7732-7734 7741 7744-7760 7763 7775 7808-7810 7835-7836 7847 7942 8025
adult brain	GIBCO	ABD003	4-5 28-29 44 47 205-206 211-212 229-232 246-248 250-259 261- 266 282-284 318-320 323-328 338-341 349-354 356-359 368-375 382-383 385-386 397-398 400 404-409 426-427 433 444-449 455 476-479 486-489 492-493 495-497 500-504 506 508-515 517 522- 526 528-529 555-556 584-592 602-604 606-614 616 622 624 627- 633 635-640 649 658 666 668 672-676 679-683 686-688 690-692 704-707 722-723 726 768-769 771 782 841-843 846-849 857 867- 869 872-874 876-881 884-885 890 893-895 900 902 911-917 919- 921 923-927 929 945 960-962 969 973 979-985 991-993 995-1000 1006-1009 1020 1031-1035 1037-1040 1042-1043 1056-1057 1063 1070-1072 1083 1086-1094 1100-1109 1111 1113 1115 1119-1123 1129 1131 1137-1148 1165 1174-1175 1183 1185-1197 1204 1210- 1212 1221-1225 1227-1232 1236-1237 1241-1242 1250 1253 1264- 1265 1267-1270 1272 1279-1281 1286 1291-1293 1303-1306 1308- 1309 1314-1316 1334-1336 1338-1344 1355-1359 1361-1363 1365- 1368 1370 1372-1375 1382-1390 1392-1400 1411-1413 1423 1438- 1439 1442-1445 1447-1449 1451-1456 1476-1477 1484-1485 1489- 1493 1495-1496 1500 1503-1504 1506-1507 1515 1523-1524 1534- 1536 1538 1549 1560 1564-1571 1576-1578 1595-1601 1603 1610 1621-1622 1626 1640-1641 1644 1646 1648-1652 1674 1676-1680 1691-1693 1695-1696 1698-1700 1703-1704 1706 1711-1713 1718 1732-1736 1741-1745 1747-1748 1751-1754 1764 1768-1779 1781- 1790 1792-1805 1807-1819 1821-1826 1828-1837 1839-1844 1850

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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adult brain	Clontech	ABR001	27 39-42 53 136-143 145-154 156-163 282-284 297-298 338-339 374 408-409 411-420 422 436-441 476 478-479 528-529 552-554 666 668 703-706 754 773 784 795 806 840-843 859-862 915-917 919-921 929 999-1000 1037-1040 1042-1043 1104-1109 1131 1165 1198-1201 1291-1293 1303-1306 1308-1309 1334-1336 1339-1340

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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adult brain	Clontech	ABR006	55 122 126-130 136-154 156-163 168-169 178-180 194-195 340-341 360-361 368-373 431 434-435 457-459 476 478-479 495-497 528- 529 584-592 607-612 622 624 649-655 658 674-676 757-764 766 780-781 823-825 867 869 878 880-881 884-885 969 999-1000 1006- 1009 1073-1080 1167-1172 1191 1338 1341-1344 1370 1372-1373 1382-1384 1420 1438-1439 1442-1445 1470-1471 1486-1493 1495- 1496 1503-1504 1506-1507 1543-1547 1596-1600 1615-1619 1621- 1622 1628-1633 1635 1644 1646 1648-1652 1667-1670 1690 1718 1732-1736 1747-1748 1751-1754 1768-1772 1774 1862-1863 1938- 1945 1965-1967 2001 2012 2014-2015 2039-2040 2063 2084 2097 2099-2100 2114-2117 2141 2146 2157 2162-2163 2168 2179 2185- 2187 2196 2200 2206 2217 2228 2234-2242 2244 2253 2265 2285- 2286 2332-2339 2352-2356 2359-2361 2380 2387-2388 2412-2417 2419-2423 2425-2427 2495 2533 2575 2625-2626 2628 2683-2686 2688 2764 2767-2768 2792-2793 2798-2804 2839-2841 2900-2908 2934-2937 2955 3052 3065 3087-3091 3093 3095 3107 3127-3132 3143 3151-3155 3216 3236-3237 3342 3350 3352 3385 3396 3411 3458-3459 3521-3523 3588-3589 3627 3719 3749 3772 3791-3794 3890 3909-3910 3912 3974 3996 4017-4020 4064 4091-4097 4104- 4105 4183-4185 4306-4307 4341 4404-4405 4518-4519 4521 4529 4533-4536 4582-4585 4688-4689 4748 4847-4853 4952 4954-4958 5010-5013 5090-5093 5095 5123 5131-5132 5142-5143 5193-5194 5196 5277-5281 5316 5409 5664 5764-5770 5772-5781 5783-5785 5933 6175 6181-6182 6300-6303 6311-6313 6424-6427 6493 6624- 6625 6658-6660 6662-6666 6735 6871 6882 6888-6889 6899-6900 6939-6942 7063 7397 7493-7494 7504 7515 7526 7535 7546 7558 7569 7587-7589 7616 7677 7686 7697 7725-7726
adult brain	Clontech	ABR008	2 16-17 19 21 45 47 55 58-59 61-66 77-87 89-98 100-110 112-117 122 126-132 134 136-154 156-165 168-169 192-195 208 211-213 221 237-239 249 260 265-266 269 280 282-284 297-298 321 323- 325 328 335-337 340-341 360-361 368-374 382-383 387 389-398 400 404-409 423 428-430 432 436-441 448-449 457-459 476 478- 482 495-497 500 527-529 536-540 550 552-554 567-571 573-580 586-592 602 607-614 616 622 624 627-633 635-640 645 649 654- 655 663-664 666 668 682-683 685-688 690-691 704-707 710-719 721-725 744-745 751-753 755 757-764 766 773 780-781 784 795 806 816 818 823-827 841-849 856 859-862 864-866 872-874 880- 881 883-885 896-900 902 915-917 919-921 929 931 945-948 954 962-965 967-968 979 988 994 999-1000 1006-1009 1015-1017 1031-1035 1037-1040 1042-1043 1054-1055 1073-1080 1101-1110 1112 1119-1121 1123 1152 1155-1160 1163 1167-1172 1174-1175 1177-1179 1181 1192-1193 1195-1196 1198-1201 1210 1221-1227 1231-1232 1236-1237 1241-1249 1251 1266 1273-1275 1279-1281 1283 1287 1289 1299-1301 1305-1309 1328-1331 1334-1338 1341- 1344 1381 1388-1390 1392-1400 1416-1418 1420 1423 1428 1430 1432-1440 1442-1445 1447 1450 1461-1465 1472 1486-1493 1495- 1496 1499-1500 1510-1513 1520 1543-1549 1559-1561 1596-1601 1603-1606 1611-1612 1614-1619 1628-1633 1635 1640-1643 1648- 1654 1657-1663 1671-1672 1686-1693 1695-1696 1698-1699 1703- 1704 1706 1710-1713 1718-1725 1730-1736 1738 1747-1760 1762

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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adult brain	BioChain	ABR012	28-29 432-433 444 455 476 478-479 483 486-487 489 538 618-620 645 753 856 954 979 1299-1301 1654 1703-1704 1706 1732-1736 1749 1849 2016-2022 2347-2349 2425-2427 2898 2909 3212 3222 3233 4952 4954-4958 4978-4980 5645-5648 7771-7772
adult brain	BioChain	ABR013	476 478-482 486-487 489 1133-1135 1305-1306 1308-1309 1701-1702 2024-2026 2347-2349 2425-2427 2621-2624 2682-2686 2688 2898 2909 3056-3063 3134-3135 3743 3772 4952 4954-4958 5272 5274 6545-6546 7771-7772
adult brain	Invitrogen	ABR014	1694 1697 1703-1704 1706 1775-1777 1862-1863 1910 2135-2137 2200-2203 2216 2218 2528 2539 2545 2556 2567 2822 3055 3101-3102 3104-3105 3116-3117 3506 3885-3886 3979-3985 4702 5176 5272 5274 6353 6356-6358 6413-6414 6419 6424-6427 6824-6826 6828-6829 7044 7186 7197
adult brain	Invitrogen	ABR015	202-203 1534-1536 1538 1644 1646 1648-1652 1718 1741-1745 1782 1843 2084 2136 2232-2233 2838 2952-2954 2962-2971 3349 3916-3921 3923-3932 3934-3936 4571-4574 4587 4590-4591 4599 4610 4698 4710 4737-4739 5176 5272 5274 5654-5656 6191 6198 6903 6906 7822-7823
adult brain	Invitrogen	ABR016	28-29 56 1534-1536 1538 1612 1614 1642-1643 1755-1760 1762 1946 1948-1951 2010-2011 2013 2016-2022 2137 2204-2205 2207-2208 2835 2837 2853-2854 2857-2858 2955 3039-3040 3071-3077 3463 3853-3854 3990 4554 4565 4576 4737-4739 5272 5274 5298 6195-6196 6353 6356-6358 6424-6427 6761 6851-6854
adult brain	Invitrogen	ABT004	55 66 77 126-130 144 168-169 201 237-239 265-266 326-327 360-361 368-373 382-383 466 480-482 486-487 489 500 528-529 536-537 540 567-570 593 595-596 607-614 616 654-655 666 668 682-683 744-745 773 782 784 795 806 823-825 846-849 872-874 911-912 919-921 945-948 969 979 999-1000 1073-1080 1119 1152 1163 1177-1179 1198-1201 1221-1225 1227 1299-1301 1326 1338-1340 1346-1348 1350-1359 1361-1363 1369 1374-1375 1381 1388-1390 1438-1439 1442-1445 1462-1465 1484-1493 1495-1496 1529-1535 1572-1575 1587-1588 1601 1603 1615-1619 1628-1633 1635 1640-1641 1686-1689 1691-1693 1695-1696 1700 1703-1704 1706-1709 1718 1747-1748 1751-1760 1762 1790 1792-1795 1806 1823-1824 1862-1865 1887 1895-1901 1904-1905 1914 1925 1930-1935 1974 2002-2008 2087 2097 2099-2100 2114-2117 2185-2186 2250 2276 2289-2294 2328 2330 2332-2339 2347-2350 2374 2383-2386 2396 2407 2418 2425-2427 2429 2437 2448 2459 2466-2470 2482 2500-2502 2528 2539 2545 2556 2567 2572-2574 2590-2594 2679-2681 2706-2707 2718-2721 2723-2725 2750-2753 2764 2766-2768 2777 2784 2803-2804 2849-2850 2853-2855 2857-2858 2900-2908 2919 2936-2937 2955 2962-2971 2989-2990 2992-2993 3003-3008 3070-3072 3101-3102 3104-3105 3107 3112-3113 3115 3118-3119 3121 3151-3158 3195-3196 3209-3211 3213-3215 3223-3224 3260-3261 3278-3279 3310 3322 3356-3357 3389 3436-3437 3449-3450 3452 3511 3581-3582 3584 3620-3622 3732 3741-3742 3745 3772-3773 3775 3782 3791-3794 3806-3807 3809-3810 3813 3839 3856-3859 3861-3865 3867-3871 3881 3888 3958-3964 4009 4024-4025 4087 4089-4090 4114-4120 4128 4183-4185 4193 4218 4220 4227 4233 4309-4311 4373-4374 4377 4415 4433 4443 4486 4491-4493 4531 4537-4539 4542 4551 4622-4624 4671-4672 4753 4755-4756 4765 4774-4776 4787 4798 4809 4821 4832 4838-4841 4843 4845 4847-4854 4861-4869 4872-4880 4884-4885 4905 4917-4918 4921-4926 4940-4941 4943-4944 4952 4954-4958 4964 4969-4971 4975 4995 5010-5013 5056-5060 5062 5082 5125-5126 5128-5130 5168-5169 5216 5218-5221 5272 5274 5307 5333-5335 5400 5537 5539 5579 5599-5603 5678-5680 5747-5748 5928 5979 5981-5982 6022 6025-6032 6043-6045 6047-6048 6104-6106 6112 6143-6145 6148-6152 6178 6197 6249-6250 6333-6335 6450-6451 6453 6455-6456 6604 6627 6629 6639 6650 6656 6687-6688 6693 6709 6711-6712 6733-

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cultured preadipocytes	Stratagene	ADP001	25 28-29 36 40-42 123-124 168-169 178-179 229-233 237-239 265- 266 315-320 323-325 352-354 356-359 382-383 423 432-433 444 448-449 455 476 478-479 483 500 518-521 525-526 538 552-554 603-604 606-612 637-640 645 649 654-655 658 666 668 708 730 744-745 753 780-781 833-835 841-845 856 884-885 923-927 949- 950 954 969 987 1015-1017 1019 1024-1028 1156-1160 1165 1181 1192-1193 1195-1196 1236-1237 1264-1265 1273-1275 1299-1301 1305-1306 1308-1309 1322 1355-1359 1361-1363 1374-1375 1424- 1426 1534-1535 1552-1558 1572-1575 1621-1622 1628-1633 1635 1654 1657-1663 1686-1689 1701-1704 1706 1749 1775-1777 1782 1790 1792-1794 1796-1797 1832-1834 1836-1837 1839-1843 1845 1849 1867 1874-1876 1922 1935 2081-2083 2085-2086 2088-2091 2105-2108 2124-2127 2171-2174 2181 2204-2205 2207-2208 2216 2218 2220-2223 2234-2238 2240-2242 2284 2328 2330 2345-2346 2352-2356 2359-2361 2381-2382 2401-2406 2408-2410 2425-2427 2498-2499 2503 2505-2506 2533 2544 2546 2576-2577 2584-2586 2588-2589 2602 2632-2634 2682 2699-2704 2706-2708 2750-2753 2764 2767-2770 2787 2792 2798-2802 2830-2833 2849-2850 2898 2909 3039-3040 3043-3050 3081 3092 3101-3105 3111 3114 3133 3209-3211 3213-3215 3223-3224 3249-3250 3289-3295 3297 3356- 3357 3499-3501 3506 3560 3575-3576 3579-3580 3697 3708 3713- 3714 3717-3718 3720-3722 3732 3749 3782 3788-3790 3796 3802 3916-3921 3923-3932 3934-3936 4002 4083-4085 4087 4089-4097 4138-4142 4144-4146 4172-4173 4176 4256-4258 4320-4323 4325 4357 4368 4373-4374 4379 4537-4539 4571-4574 4582-4585 4633- 4642 4644-4649 4671-4672 4705 4728-4729 4753 4755-4756 4837 4842 4844 4884-4886 4888 4910 5087 5137 5141 5182-5183 5185- 5187 5265-5266 5277-5281 5319-5322 5468-5469 5566-5569 5591- 5593 5595-5596 5638 5644-5648 5654-5656 5694 5705 5747-5748 5910 5918-5919 5934-5935 5937-5938 5961 6022 6025-6029 6055- 6056 6058-6060 6069 6088 6183 6201 6209-6211 6242-6243 6283 6339-6340 6361-6362 6440 6442 6517-6518 6521-6529 6553-6554 6627 6629 6658-6660 6662-6666 6747-6749 7162 7185 7187 7238 7291-7293 7321-7322 7362-7363 7365 7377-7379 7393-7395 7427 7551-7553 7613-7614 7644 7655 7808-7810 7984-7986 7988-7990
adrenal gland	Clontech	ADR002	9-11 15 53 55 66 77 123-124 205-206 229-233 265-266 282-284 318-320 323-325 368-373 432-433 444 455 476 478-479 483 495- 497 501-504 506 508-513 518-521 533-535 538 547-549 551-554 574-582 597-600 602-604 606-614 616 645 658-662 666 668 672- 673 684-688 690-691 704-706 726-728 746 753 780-783 816-818 823-825 833-835 856 872-874 876-877 900 902 911-913 923-927 954 959 970 973-976 978 991-993 995-997 1006-1009 1015-1017 1031-1035 1037-1040 1042-1043 1056-1057 1063 1072 1083 1089 1100-1103 1111 1115-1118 1120-1123 1129-1130 1140 1146-1148 1165 1173 1176-1179 1185-1190 1197 1202-1203 1205-1207 1210 1213-1214 1216-1218 1231-1232 1258 1261 1264-1265 1287 1289 1299-1301 1305-1306 1308-1313 1323-1325 1328-1331 1339-1340 1355-1359 1361-1363 1385-1387 1400 1408 1420 1448-1449 1451- 1456 1476-1481 1498 1521-1522 1534-1535 1543-1547 1559 1561- 1562 1565-1566 1604-1606 1611 1626 1640-1641 1654-1655 1674 1676-1678 1681-1684 1701-1706 1716 1727 1730-1731 1737 1739- 1740 1749 1807 1825-1826 1828-1831 1836-1837 1839-1843 1845 1849-1850 1852-1855 1858-1865 1870 1877-1880 1882-1886 1895- 1901 1904-1905 1975 2002-2008 2010-2011 2013 2024-2033 2035- 2036 2038-2040 2063 2081-2083 2105 2118-2123 2128-2129 2131- 2134 2144 2147-2152 2162-2163 2204-2205 2207-2208 2216 2218 2284 2289-2294 2319 2332-2339 2341-2344 2347-2350 2359-2361 2387-2388 2391-2394 2425-2428 2430-2434 2450-2451 2464-2465 2494-2495 2549-2552 2585-2586 2588-2589 2629-2631 2646-2654 2656-2663 2674-2676 2679-2681 2695-2697 2699-2704 2708 2714- 2715 2730-2733 2750-2753 2764 2767-2768 2774-2776 2787 2798- 2804 2835 2837 2842-2843 2898 2900-2909 2936-2937 2978-2979

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adult heart	GIBCO	AHR001	7 9-11 28-29 39 47 55 60-68 77-87 89-98 100-109 112-117 123-124 164-165 178-179 205-206 210 215-217 223-232 237-239 246-248 250-259 261-268 270-273 282-284 311-320 328-332 334-341 344 349-359 366 368-375 377 385-400 404-409 426-430 432 436-443 448-454 456 461-465 467-468 476-479 483 486-489 495-497 500-504 506 508-515 517-521 525-526 528-529 538 545-546 552-556 567-571 573-580 586-593 595-596 602-604 606-612 618-620 627-633 635-640 645 649 658 663-664 666 668-669 682-684 686-691 700 704-706 709 720 722-723 731-745 753 768 771 773 780-782 784 795 806 816 818 837 840-845 851 856-857 859-869 878-900 902-909 911-912 914 919-921 923-927 929 937 954 959 962-965 967-969 973 979 987 999-1000 1005-1009 1015-1021 1030-1035 1041 1044-1046 1052-1061 1063 1068-1072 1083 1087-1094 1100-1103 1110-1112 1115 1119-1125 1127-1129 1131 1137-1148 1161-1162 1164-1165 1174-1175 1177-1179 1185-1193 1195-1196 1202-1203 1205-1212 1228-1232 1236-1239 1246 1262-1269 1273-1275 1279-1281 1283-1285 1291-1293 1299-1301 1303-1306 1308-1309 1314-1317 1319 1334-1336 1341-1344 1346-1348 1350-1359 1361-1363 1369 1371 1376 1380 1382-1384 1388-1391 1395-1400 1402 1410-1413 1416-1418 1438-1439 1442-1445 1447-1449 1451-1456 1462-1465 1470-1471 1476-1477 1486-1488 1498 1503-1504 1506-1507 1510-1515 1517 1523-1524 1529-1533 1536 1538 1541-1542 1559 1561 1567-1569 1571 1576-1578 1595-1601 1603-1606 1611-1612 1614-1619 1623 1627-1633 1635 1638-1643 1647-1652 1655 1671-1672 1686-1693 1695-1696 1698-1699 1703-1704 1706 1711-1713 1719-1725 1730-1731 1737 1739-1740 1755-1760 1762 1765-1771 1773 1775-1777 1782-1789 1796-1797 1807 1823-1824 1843 1845 1862-1863 1866-1867 1874-1876 1887-1890 1895-1901 1903-1905 1907-1909 1915-1918 1921-1922 1936 1938-1945 1947 1976 2010-2011 2013-2022 2024-2033 2035-2036 2039-2041 2052 2081-2083 2105-2108 2113-2117 2124-2127 2136-2137 2143 2153-2156 2158-2159 2161 2164-2166 2169-2174 2177-2178 2180 2188-2195 2197-2200 2204-2205 2207-2208 2216 2218 2220-2223 2225-2227 2229-2238 2240-2242 2246 2284 2287 2289-2294 2328 2330-2339 2345-2350 2352-2356 2359-2361 2369-2372 2374-2375 2380-2382 2385 2389-2390 2395-2410 2412-2423 2425-2434 2436-2438 2448 2450-2459 2464-2475 2480 2482-2484 2492 2495-2503 2505-2506 2508-2509 2511-2516 2518-2527 2529-2531 2533 2544 2546 2549-2550 2558-2562 2564-2565 2569-2575 2584-2586 2588-2589 2602 2612 2629-2634 2639-2640 2664-2665 2667 2674-2676 2678 2682-



Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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adult kidney	GIBCO	AKD001	9-11 13 15-17 25 27-29 36 40-42 47 55 60 66 69-73 77 80-109 111- 117 122-124 126-130 133 178-179 184-187 189-190 205-206 223- 232 237-239 246-248 250-259 261-267 282-284 297-298 318-320 323-331 335-337 340-341 344 352-361 365-367 374-375 377 382-

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adult kidney	Invitrogen	AKT002	18 44 69-72 80-87 89-98 100-109 112-117 123-124 133 168-169 265-266 268 270-273 318-320 323-325 328 335-337 340-341 385- 387 389-397 426-427 431 434-435 450-454 456 486-487 489 501- 504 506 514-515 517 584-593 595-596 602 607-614 616-620 627- 633 635-640 654-655 663-664 670-671 679-681 722-723 747 780- 781 823-825 844-845 876-877 883-885 900 902 915-917 949-950 959 963-965 967-970 979 1006-1009 1019 1024-1028 1056-1057 1087-1088 1090-1094 1101-1103 1115-1121 1123 1127-1128 1165 1192-1193 1195-1196 1202-1203 1205-1207 1211-1214 1216-1218 1228-1230 1241-1242 1257 1269 1294-1295 1297-1301 1303-1304 1314-1316 1323-1325 1341-1344 1355-1359 1361-1363 1388-1390 1405-1406 1424-1426 1438-1439 1442-1445 1447 1450 1461 1472 1498 1503-1504 1506-1507 1521-1522 1529-1533 1536 1538 1543- 1547 1562 1565-1566 1576-1579 1581-1582 1625 1648-1652 1657- 1663 1690-1693 1695-1696 1703-1704 1706 1711-1713 1746 1765- 1767 1773 1775-1777 1783-1790 1792-1794 1806 1825-1826 1828- 1831 1843 1845 1866-1869 1895-1901 1904-1905 1915-1918 1922 1938-1945 1952-1957 1960-1961 1963 1976-1978 1980-1989 1991 2010-2011 2013 2016-2023 2027-2036 2039-2041 2052 2106-2108

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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adult lung	GIBCO	ALG001	19 28-29 44 74-76 78-79 123-124 178-179 205-206 229-232 246- 248 250-259 261-264 282-284 318-320 344 355 366 368-374 377 385-386 388 397-400 404-407 426-427 433 444 448-456 466 476- 479 484-485 488 492-493 500 508-515 517-526 541-542 545-546 552-554 593 595-596 602-604 606 658 704-707 744-745 769 782 836 844-845 851 859-862 876-877 880-881 892 900 902 911-912 914 923-927 930 935-936 938 969-970 973 999-1000 1006-1009 1024-1028 1058-1061 1063 1068-1069 1072 1083 1089 1096-1103 1111 1113 1115-1118 1122 1124-1126 1129 1140 1146-1148 1156- 1160 1165 1174-1175 1185-1190 1221-1225 1227 1267-1268 1282 1299-1301 1303-1304 1317 1319 1323-1325 1341-1348 1350-1354 1371 1380 1391 1402 1410-1413 1424-1426 1438-1439 1442-1446 1489-1493 1495-1496 1503-1504 1506-1507 1541-1542 1612 1614- 1619 1644 1646 1648-1652 1681-1684 1690 1698-1699 1703-1704 1706 1711-1713 1730-1731 1747-1748 1751-1754 1775-1777 1782- 1789 1799-1804 1836-1837 1839-1842 1858-1860 1871-1876 1887 1904-1905 1911-1913 1922 1946 1948-1951 1977-1978 1980-1989 1991 1996-2000 2010-2011 2013 2016-2022 2039-2040 2081-2083 2102 2105 2124-2127 2136 2143 2181 2185-2186 2188-2195 2197- 2199 2204-2205 2207-2208 2216 2218 2225-2227 2229 2332-2339 2345-2350 2359-2361 2387-2388 2425-2428 2430-2432 2439-2444 2455-2458 2496-2502 2510 2517 2528 2533 2539 2545 2556 2563 2567 2575 2579-2583 2595-2597 2599-2601 2629-2631 2679-2682 2690-2693 2699-2704 2714-2715 2744-2745 2763 2766 2787 2789- 2791 2803-2804 2806-2807 2813-2820 2838 2915-2917 2922 2924 2943-2944 3011-3012 3014 3018-3019 3043-3050 3078-3080 3082- 3091 3093 3095 3127-3132 3183 3192 3212 3218 3222-3224 3226 3233-3235 3355 3436-3438 3463 3499-3501 3506 3521-3523 3560 3563-3564 3581-3582 3592-3596 3610-3612 3615-3616 3626 3631 3679 3691 3696 3698-3702 3713-3714 3732 3745 3762 3764-3765 3788-3790 3805 3832-3833 3855 3892 3903 3911 3922 3937-3940

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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lymph node	Clontech	ALN001	20-21 28-29 34-35 37 40-42 80-87 89-98 100-109 112-117 282-284 335-337 349-351 365 367 387 389-396 432 448-454 456 476-479 488 500-504 506 518-524 536-538 540 552-554 603-604 606 618-620 645 649 747 753 769 846-849 856 923-927 939-943 954 973 979 999-1000 1019 1021 1029-1030 1041 1052 1056-1057 1063 1070-1072 1083 1089 1100 1111 1115-1118 1122 1124-1125 1129 1131 1133-1135 1140 1167-1172 1310-1313 1427 1447 1473-1475 1498 1576-1578 1595 1604-1606 1648-1652 1680 1768-1771 1775-1777 1782 1843 1845 1850 1861 1870 1887 1935 2137 2143 2162-2163 2200 2216 2218 2232-2233 2289-2294 2319 2322-2327 2345-2346 2350 2352-2356 2359-2361 2363-2365 2387-2388 2425-2427 2449 2466-2469 2490-2491 2563 2575 2590-2594 2607-2611 2632-2634 2682 2694 2744-2745 2750-2753 2763 2787 2795 2803-2804 2856 2865 2876 2910-2914 2955 2977 2982-2987 3010 3020-3022 3039-3040 3043-3050 3095 3116-3117 3127-3132 3218-3219 3260-3264 3311 3412-3415 3417 3419 3439 3499-3501 3521-3523 3575-3576 3579-3580 3592-3596 3600 3677 3679 3713-3714 3717-3718 3720-3722 3760 3769 3774 3776 3786 3797 3799 3913-3915 3937-3940 3944 3955 3967 4102-4103 4106-4108 4114-4120 4250-4258 4316 4357 4368 4379 4411 4436 4478 4575 4577-4579 4587 4599 4610 4616-4617 4633-4642 4644-4649 4677-4679 4688-4689 4745 4870-4871 4904 4978-4980 5020 5075-5076 5078-5081 5105 5107-5120 5224 5265-5266 5292-5294 5312-5313 5356 5486-5489 5531-5533 5563 5573 5594 5605 5616 5627 5645-5648 5653-5656 5667-5671 5841-5845 5875-5878 5962-5963 5987-5988 6005-6007 6022 6025-6029 6073 6104-6106 6148-6152 6179 6260-6265 6267-6274 6283-6285 6399 6410 6508 6553-6554 6615 6619-6621 6679 6778 6780-6781 6803 6920-6921 6984-6987 6998 7069-7070 7098-7107 7109 7231 7241 7252 7257-7258 7270 7314-7316 7356 7377-7379 7453-7460 7508 7587-7589 7688 7708 7719 7801-7803 7820 7839 7895-7897 7969-7973 8044-8046
young liver	GIBCO	ALV001	16-17 28-29 118-121 192-193 223-232 268 270-273 282-284 295-301 318-320 326-328 335-337 352-354 356-359 368-374 376 378-381 387 389-397 431 433-435 444 455 477 488 492-493 501-504 506 508-515 517 536-537 540 547-549 551-554 557-558 574-580 586-593 595-596 602 613-614 616 627-629 637-644 650-655 666 668 689 700 708-709 720 722-723 731 742 782 844-845 851 863 872-874 884-885 893-895 900 902 923-927 945 969 973 1006-1009 1037-1040 1042-1043 1101-1103 1110 1112 1115 1124-1125 1136 1165 1177-1179 1191 1213-1214 1216-1218 1226 1228-1230 1236-1237 1246 1264-1265 1267-1268 1279-1281 1294-1295 1297-1301 1339-1340 1346-1348 1350-1359 1361-1363 1365-1369 1374-1375 1416-1418 1424-1426 1447 1450 1458-1461 1472 1476-1477 1486-1493 1495-1496 1498 1514 1523-1524 1570 1589-1590 1592-1594 1601 1603 1612 1614-1619 1640-1643 1690 1698-1699 1703-1704 1706 1715 1717-1718 1782-1789 1798 1809 1823-1824 1845-1846 1862-1863 1867 1874-1876 1881 1891-1901 1907-1909 1935 1938-1940 1992-1995 2039-2040 2105 2114-2118 2120-2127 2143 2177-

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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adult liver	Invitrogen	ALV002	68 73 192-193 198 200 211-212 234 265-266 268 270-273 282-284 295-301 326-327 335-337 376 378-381 423 477 480-482 486-489 495-497 536-537 540 557-558 586-592 613-614 616 627-633 635- 636 641-644 650-655 674-676 679-681 707-708 724-725 729 757- 764 766 771 782 823-825 840 844-845 872-874 913 915-917 951- 953 956 969 991-993 995-997 1019 1054-1055 1087-1088 1090- 1094 1116-1119 1124-1125 1146-1148 1165 1177-1179 1191 1202- 1203 1205-1207 1213-1214 1216-1218 1243-1245 1250 1253 1257 1270 1272 1279-1281 1287 1289 1299-1301 1314-1316 1339-1340 1355-1359 1361-1363 1376-1379 1409 1423 1458-1460 1479-1481 1499 1514 1529-1533 1549 1560 1563 1589-1590 1592-1594 1601 1603 1625 1628-1633 1635 1638-1639 1642-1643 1648-1652 1657- 1663 1681-1684 1690-1693 1695-1696 1698-1699 1703-1704 1706 1730-1731 1737 1739-1740 1747-1748 1751-1754 1790 1792-1794 1825-1826 1828-1831 1845 1858-1860 1867 1874-1876 1941-1946 1948-1951 2098 2110-2112 2137 2139-2140 2142 2147-2152 2171- 2174 2177-2178 2180 2188-2195 2197-2199 2220-2224 2234-2238 2240-2242 2284-2286 2319 2345-2346 2380 2466-2469 2515-2516 2518-2527 2533 2564-2565 2629-2631 2638 2682 2690-2693 2710 2712 2716-2721 2723-2725 2730-2733 2750-2753 2769-2770 2777 2784 2795 2814-2820 2849-2850 2856 2859-2860 2865 2876 2921 3016-3017 3073-3077 3081 3092 3096 3103 3114 3151-3155 3244 3256 3267 3274 3285 3296 3331 3358-3361 3364-3373 3375-3384 3386-3388 3433-3434 3499-3501 3560 3562 3584 3587 3590-3591 3620-3622 3624 3635 3646 3676 3760 3769 3776 3786 3797 3825- 3827 3829 3956 3996 4024-4025 4075-4076 4078-4080 4082 4091- 4097 4104-4105 4150-4153 4244-4245 4264 4290 4292-4294 4311 4326-4328 4336-4340 4357 4368 4379 4436 4486 4494-4497 4499- 4500 4537-4539 4560-4561 4618-4619 4671-4672 4707 4737-4739 4753 4755-4756 4777 4817 4827-4831 4842 4844 4847-4853 4872- 4873 4905 4917-4918 4921-4926 4952 4954-4958 4990-4994 5105 5116 5125-5126 5128-5130 5144-5146 5173 5184 5189-5190 5195 5206 5209 5212-5215 5270-5271 5308-5311 5423 5476-5477 5486- 5489 5523 5525 5540-5541 5581 5591-5593 5595-5596 5654-5659 5661-5663 5760 5771 5782 5818-5820 5833-5834 5908-5909 5913 5934-5935 5937-5938 6030-6032 6088 6131-6132 6143-6144 6148-

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adult liver	Clontech	ALV003	55 299-301 641-644 649-653 872-874 1941-1945 2136 2285-2286 2641-2642 3171-3172 3468-3469 4063 4067-4068 4104-4105 5233 7186 7197 7808-7810 7849
adult ovary	Invitrogen	AOV001	2 4-6 9-11 22-23 27-29 39-42 44 47 55 61-66 68 77 80-87 89-98 100-110 112-118 123-132 134-135 144 168-169 178-179 181-183 196-197 202-203 207-208 215-217 221 229-232 237-239 246-248 250-259 261-268 270-273 282-284 311-314 318-321 323-331 335-337 340-341 349-354 356-361 368-375 382-383 387 389-398 400 404-409 411-423 426-430 433 436-456 461-468 477 484-489 492-493 500-504 506 508-515 517-526 533-537 540-542 545-546 552-554 567-571 573-580 584-593 595-600 602-604 606-614 616 618-620 622 624 627-633 635-640 646-649 658-664 666 668 670-676 679-683 685-692 700 704-720 722-726 729 731-745 748-749 751-752 755 757-764 766 768-769 771-772 774-775 780-782 816 818 820-821 823-827 829-832 836-838 840-849 851-855 857-858 864-869 872-874 876-877 879-881 883-885 890 900 902 905-909 911-917 923-927 929-930 938 945-948 951-953 956 963-965 967-970 973 979-985 987-988 990-997 1001 1005-1009 1015-1017 1019 1024-1028 1031-1035 1037-1040 1042-1046 1051 1054-1061 1063 1068-1072 1083 1086-1094 1096-1109 1111 1115-1132 1137-1151 1153-1154 1156-1162 1164-1165 1167-1172 1174-1179 1182-1197 1202-1207 1210-1214 1216-1218 1221-1225 1227-1230 1236-1238 1241-1245 1247-1250 1252-1256 1258 1261 1264-1265 1267-1269 1279-1281 1284-1285 1287-1289 1291-1293 1303-1306 1308-1317 1319 1322 1328-1331 1338 1346-1348 1350-1359 1361-1363 1365-1368 1374-1379 1381-1390 1395-1399 1405-1406 1409 1411-1413 1415-1419 1424-1426 1446-1449 1451-1460 1462-1465 1470-1471 1473-1477 1479-1481 1486-1493 1495-1496 1498 1500-1501 1503-1504 1506-1507 1510-1513 1515 1521-1522 1525 1529-1536 1538 1541-1542 1549-1551 1559-1561 1563 1565-1569 1571-1582 1591 1595 1602 1604-1606 1611 1613 1615-1619 1621-1622 1624 1628-1635 1640-1641 1644-1646 1648-1653 1657-1663 1665-1666 1671-1672 1674 1676-1680 1686-1693 1695-1696 1701-1706 1711-1713 1716 1718-1725 1727 1730-1731 1737-1745 1750 1755-1764 1768-1771 1773 1775-1777 1780 1782-1794 1796-1798 1807 1809 1820 1825-1831 1843 1845 1847-1848 1850-1855 1857-1861 1864-1865 1867-1870 1874-1880 1882-1887 1891 1893-1902 1904-1913 1915-1924 1926-1937 1941-1957 1960-1963 1975-1978 1980-1989 1991-2000 2002-2008 2010-2011 2013 2016-2022 2024-2026 2037-2041 2052 2076 2081-2083 2085-2086 2088-2096 2103-2109 2118-2129 2131-2134 2136-2137 2139-2143 2146-2154 2157 2162-2163 2168 2171-2174 2177-2181 2185-2208 2216-2218 2220-2223 2225-2226 2228 2230-2231 2234-2242 2244 2253 2265 2284 2288 2295 2297-2306 2308-2316 2319-2327 2331-2339 2341-2346 2350 2352-2356 2359-2365 2369-2372 2374-2375 2381-2410 2418 2425-2435 2437 2439-2444 2446-2454 2459 2466-2470 2480 2482-2484 2490-2491 2494-2503 2505-2506 2509 2511 2515-2516 2518-2528 2533-2534 2539 2544-2554 2556 2558-2565 2567 2569-2577 2584-2586 2588-2597 2599-2601 2603-2605 2625-2626 2628-2642 2645 2655 2664-2667 2672-2676 2678-2688 2690-2712 2714-2715 2718-2725 2729-2733 2737-2741 2744-2748 2750-2753 2757 2762-2764 2766-2772 2774-2776 2781-2783 2785-2795 2798-2804 2806-2812 2814-2821 2827 2829-2835 2837 2842-2843 2846 2853-2855 2857-2858 2898 2900-2914 2918 2920-2922 2924-2931 2936-2939 2941-2942 2945-2948 2951-2960 2962-2971 2973-2974 2978-2979 2981-2990 2992-3001 3009-3012 3014-3025 3035 3039-3040 3053-3054 3064 3066-3067 3073-3077 3087-3091 3093 3095-3096 3098-3100 3106 3109-3113 3115-3119 3123-3125 3127-3140 3147 3151-3158 3179-3180 3183 3188-3189 3194 3206 3212 3217-3219 3221-3222 3227-3228

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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placenta	Invitrogen	APL002	40-42 45 136-143 145-154 156-163 223-228 265-266 382-383 423 426-427 436-443 518-521 541-542 617 627-629 649 658 757-764 766 872-874 887-889 891 905-909 969 973 999-1000 1024-1028 1054-1055 1116-1118 1146-1148 1174-1175 1213-1214 1216-1218 1257 1305-1306 1308-1309 1374-1375 1405-1406 1423 1428 1430 1473-1477 1500 1510-1513 1528-1533 1640-1641 1665-1666 1680 1686-1689 1718 1782 1790 1792-1794 1938-1940 1962-1969 1971- 1974 1992-1995 2002-2008 2027-2033 2035-2036 2063 2098 2136- 2137 2147-2152 2162-2163 2181 2188-2195 2197-2199 2347-2349 2389-2390 2425-2427 2435 2500-2502 2572-2574 2674-2676 2682 2699-2704 2766 2772 2956-2960 3026-3034 3036-3038 3052 3101- 3102 3104-3105 3151-3155 3195-3196 3278-3279 3433-3434 3448- 3450 3452 3615-3616 3796 3937-3940 3944 3955 3967 3972-3973 4016 4024-4025 4064 4150-4153 4181 4287-4288 4326-4328 4415 4459 4490 4537-4539 4571-4574 4723-4729 4734-4735 4765 4776 4787 4798 4809 4821 4832 4843 4847-4854 4865 4874-4880 4884- 4885 4940-4941 4943-4944 5020 5045-5049 5073-5074 5125-5126 5128-5130 5197-5202 5204-5205 5207-5208 5212-5215 5314-5315 5340-5341 5401-5404 5406-5407 5675-5677 5928 6137-6142 6148- 6152 6333-6340 6399 6410 6545-6546 6819-6826 6828-6829 6903 6906 7054 7065 7081-7082 7348 7677 7686 7697 7730 7741 7752 7795-7796 7816-7817 7819 8030 8032
adult spleen	GIBCO	ASP001	7 9-11 13 28-29 49-51 55 118 123-124 164-165 167 178-179 213 237-239 246-248 250-259 261-266 268 270-273 282-284 318-320 323-328 338-339 344 355 365-367 374 377 385-386 388 397-400 411-420 422 431 433-441 444-447 455 460 476-479 484-485 488 492-493 495-497 500-504 506 508-515 517 522-529 533-535 541- 542 545-546 552-556 567-571 573 586-593 595-596 602 607-614 616 618-620 622 624 627-633 635-636 649 654-655 658 666 668 722-725 747 751-752 755 757-764 766 771 780-781 816 818 841- 849 863 872-874 880-881 883-885 893-895 900 902 928 969-970 973 979 1006-1009 1024-1028 1036 1056-1057 1070-1071 1082 1087-1088 1090-1094 1096-1099 1101-1103 1113 1115-1118 1120- 1121 1123-1125 1131 1133-1135 1137-1139 1141-1145 1156-1160 1165 1174-1175 1185-1190 1192-1193 1195-1196 1208-1209 1221- 1225 1227 1231-1232 1250 1252-1253 1258 1261 1264-1265 1279-

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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adult testis	GIBCO	ATS001	55 68 78-79 123-124 168-175 178-179 229-232 237-239 246-248 250-259 261-264 311-314 318-320 335-337 340-341 368-374 376 378-381 397 404-407 428-435 444 448-456 476-479 488 492-493 495-497 501-504 506 514-515 517 528-529 538 567-570 593 595- 596 602 613-614 616 637-640 645 649 666 668 686-688 690-691 704-706 708 722-723 727-728 732-741 743 753 829-832 841-849 851 856 867 869 872-874 880-881 884-885 887-889 891 900 902- 909 913 923-927 946-948 954 959 963-965 967-968 970 973 979 999-1000 1024-1028 1031-1035 1056-1057 1070-1071 1104-1110 1112 1115 1120-1121 1123 1131 1146-1148 1156-1160 1165 1167- 1173 1210 1231-1232 1247-1249 1264-1265 1284-1285 1299-1301 1303-1304 1307 1323-1325 1341-1344 1355-1359 1361-1363 1365- 1368 1370 1372-1373 1395-1399 1409 1411-1413 1424-1427 1458- 1460 1462-1465 1470-1471 1478-1481 1498 1503-1504 1506-1507 1529-1533 1536 1538-1539 1559 1561 1565-1566 1576-1578 1595 1604-1606 1612 1614 1628-1633 1635 1648-1652 1655 1664 1679 1686-1689 1698-1699 1703-1706 1711-1713 1716 1727 1730-1731 1772-1773 1782-1789 1843 1862-1865 1887-1890 1907-1910 1915- 1918 1923-1924 1926-1929 1974 2009-2011 2013-2015 2065 2114-

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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Genomic DNA from BAC 63118	Research Genetics (CITB BAC Library)	BAC001	2251-2252 2254-2263 2266-2275 2277-2281 2994-2997 3533-3536 3538-3547 3549-3558 3916-3921 3923-3932 3934-3936 4765 4776 4787 4798 4809 4821 4832 4843 4854 4865 4876 7944-7947
Genomic DNA from BAC 39316	Research Genetics (CITB BAC Library)	BAC002	2251-2252 2254-2263 2266-2275 2277-2281 2994-2997 3533-3536 3538-3547 3549-3558 3916-3921 3923-3932 3934-3936 5056-5060 5062
Genomic DNA from BAC 39316	Research Genetics (CITB BAC Library)	BAC003	2251-2252 2254-2263 2266-2275 2277-2281 2994-2997 3533-3536 3538-3547 3549-3558 3916-3921 3923-3932 3934-3936 4765 4776 4787 4798 4809 4821 4832 4843 4854 4865 4876 7944-7947
adult bladder	Invitrogen	BLD001	40-42 123-124 329-331 476 478-479 552-554 571 573 682-683 708 710-719 782 816 818 935-936 963-965 967-968 973 1070-1071 1113 1115-1118 1120-1121 1123 1156-1160 1165 1198-1201 1264-1265 1341-1344 1355-1359 1361-1363 1395-1399 1470-1471 1478 1640-1641 1686-1689 1779 1781 1795 1895-1901 1915-1918 1965-1967 1977-1978 1980-1989 1991 2002-2008 2039-2040 2114-2117 2188-2195 2197-2199 2220-2223 2234-2238 2240-2242 2276 2345-2349 2464-2469 2690-2694 2764 2767-2768 2787 2789-2791 2835 2837 2842-2843 2849-2850 2853-2854 2857-2858 2910-2914 2975-2976 3073-3077 3141-3142 3217 3385 3396 3669 3678 3688 3766 3937-3940 3996 4035-4039 4044 4172-4173 4176 4218 4220 4295 4377 4380-4382 4488 4806-4808 4810 4827-4831 4837 4847-4853 5138 5270-5271 5376-5380 5470 5654-5656 5873-5874 5918-5919 6201 6245 6560-6561 6836 6851-6854 6919 6978-6979 7054 7300-7301 7393-7395 7462-7465 7491 7760
bone	Clontech	BMD001	1 22-23 28-29 39-42 44 52 55-56 61-65 67 71-72 74-76 80-98 100-

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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bone marrow	Clontech	BMD002	28-29 123-124 191 223-232 237-239 246-248 250-259 261-264 318-320 326-327 340-341 344 355 366 368-374 377 385-386 388 398-400 404-407 432 450-454 456 477 484-485 488 500 514-515 517 538 545-546 586-592 602-604 606-612 618-620 645 649 654-655 667 678 722-723 747 753 757-764 766-767 773 784 795 806 841-843 856 887-889 891 900 902 939-943 946-950 954 959 963-965 967-968 973 979 999-1000 1036-1040 1042-1043 1056-1057 1095 1115 1156-1160 1181 1191 1264-1265 1279-1281 1299-1301 1334-1336 1341-1344 1355-1359 1361-1363 1371 1377-1380 1391-1394 1402 1410 1424-1426 1432-1437 1447 1473-1475 1541-1542 1552-1558 1604-1606 1611 1628-1633 1635 1642-1643 1648-1652 1664 1690 1701-1704 1706 1718 1782-1789 1798 1809 1867 1881 1887 1892 1907-1909 1911-1913 1915-1918 1922 1938-1940 1992-1995 2016-2022 2037 2081-2083 2106-2108 2135-2137 2143 2155-2156 2158-2159 2185-2186 2188-2195 2197-2199 2201-2205 2207-2208 2232-2238 2240-2242 2246 2285-2286 2289-2294 2322-2327 2345-2346 2352-2356 2363-2365 2381-2382 2391-2394 2412-2417 2419-2423 2425-2427 2449 2454-2458 2460 2466-2469 2494 2496-2497 2503 2505-2506 2553-2554 2558-2562 2595-2597 2599 2617-2620 2625-2626 2628 2682 2699-2704 2744-2745 2764 2767-2768 2771 2803-2804 2822 2828 2836 2853-2854 2857-2858 2898 2909-2914 2982-2987 3003-3008 3010 3039-3040 3043-3050 3055-3063 3087-3091 3093 3116-3117 3179-3180 3209-3211 3213-3215 3223-3224 3262-3264 3358-3359 3416 3448 3473 3577 3728 3730 3732 3743 3893-3898 3913-3915 3937-3940 3954 3992 4003-4005 4016 4048-4049 4053 4066 4174 4191 4207 4209 4218 4220 4282 4316 4320-4323 4325 4329-4330 4336-4340 4392-4395 4516 4582-4585 4604-4605 4696 4814-4815 4847-4853 4872-4873 4884-4885 4892 4899 4928-4929 4940-4941 4943-4944 4948-4951 4978-4980 4985 4996 5010-5013 5069-5070 5099-5101 5107-5115 5117 5333-5335 5401-5404 5406-5407 5410 5531-5533 5645-5648 5654-5656 5667-5670 5694 5705 5752-5754 5807-5810 5841-5846 5848-5850 5861 5875-5878 5934-5935 5937-5938 6131-6132 6177 6181-6182 6198-6200 6206-6211 6231-6233 6256 6311-6313 6337-6338 6545-6546 6567 6698-6700 6709 6735 6849 6903 6906 6915 6917-6918 6920-6923 7002 7007-7010 7031 7098-7107 7109 7118 7121-7122 7231 7241 7251-7252 7321-7322 7377-7379 7393-7395 7440 7443-7445 7453-7460 7462-7465 7469 7479-7480 7517 7542 7659 7664-7665 7708 7719 7771-7772 7774 7808-7810 7821 7893-7894 7987 8024 8034-8035
bone marrow	Clontech	BMD004	7 9-11 178-179 722-723 747 973 2136 2341-2344 2389-2390 2455-2458 2955 4053 4066 4183-4185 4892 5818-5820 6922-6923 7377-7379 7808-7810 7893-7894

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
bone marrow	Clontech	BMD007	28-29 363-364 460 474-475 552-554 1540 2106-2108 2136 2425-2427 2672-2673 2677 2682 2765 2822 4053 4066 5137 5141 5980 5991 6002 6012 6024 6922-6923 7186 7197 7453-7460 7469 8034-8035
adult colon	Invitrogen	CLN001	66 77 311-314 323-327 404-407 476 478-479 484-485 663-664 823-825 844-845 872-874 969 979 1036 1110 1112 1177-1179 1213-1214 1216-1218 1279-1281 1371 1380 1391 1395-1399 1402 1410 1523-1524 1528 1565-1566 1628-1633 1635 1642-1643 1657-1663 1705 1715-1717 1727 1747-1748 1751-1754 1867 1895-1901 1923-1924 1926-1929 1974 2039-2040 2081-2083 2102 2162-2163 2389-2390 2428 2430-2432 2466-2469 2699-2704 2710 2712 2792 2795 2808-2812 2900-2908 2955 3081 3092 3103 3114 3179-3180 3278-3279 3310 3732 3741-3742 3840-3842 3979-3985 4238 4336-4340 4369-4371 4436 4537-4539 4571-4574 4618-4619 4726-4729 4734-4735 4737-4739 4777 4805-4808 4810 4837 4976-4977 5155 5212-5215 5225 5298 5401-5404 5406-5407 5531-5533 5631-5632 5638 5696-5699 5761-5763 5789-5790 5918-5919 5952-5954 6022 6025-6029 6163 6171-6173 6181-6182 6235-6237 6284 6331 6333-6335 6353 6356-6358 6450-6451 6453 6525-6529 6578-6579 6681 6687-6688 6721 6973-6977 6988-6989 7087-7089 7340 7453-7460 7587-7589 7790 7942 7989-7990
mixture of 16 tissues-mRNAs*	various vendors*	CTL016	297-298 426-427 477 488 528-529 552-554 658 722-723 988 994 1037-1040 1042-1043 1124-1125 1146-1148 1904-1905 2284-2286 2563 3039-3040 4526-4527 4659-4663 4952 4954-4958 5594 5605 5616 5627 6755-6758 7377-7379 7808-7810
mixture of 16 tissues-mRNAs*	various vendors*	CTL021	7 28-29 294 376 378-381 436-441 476 478-479 484-485 533-535 552-554 844-845 852-853 1299-1301 1585-1586 2016-2022 2136-2137 2185-2186 2204-2205 2207-2208 2284 2377-2378 2535-2538 2540-2543 3171-3172 3234-3235 3548 3560 4256-4258 4892 4952 4954-4958 5107-5115 5117 5599-5602 5694 5705 6109 6260-6265 6267-6274 6420 6422 6574 6585 6915 6917-6918 6939-6942 7377-7379 7453-7460 7808-7810 7841-7842
mixture of 16 tissues-mRNAs*	various vendors*	CTL028	4017-4020 7808-7810
adult cervix	BioChain	CVX001	9-11 21 28-29 40-44 55-56 66 77 80-87 89-98 100-109 112-117 122-124 178-179 181-183 202-203 215-217 229-232 246-248 250-259 261-264 268 270-273 311-314 318-320 323-325 333 335-339 360-361 374 382-383 398 400 404-409 432 442-443 445-454 456 466 476 478-479 486-487 489 492-493 501-504 506 514-515 517 522-524 538-539 541-542 550 555-556 571 573-582 586-593 595-596 602 607-612 630-633 635-636 645 647-649 658-662 666 668 670-671 704-706 708 722-725 727-728 747 753 768-769 771-772 774-775 780-781 785 816 818 820-821 837 854-856 858-863 867 869 880-881 884-885 905-909 911-912 915-917 923-927 937 939-943 954 959 969-970 973 979 990-993 995-997 1019 1021 1030-1035 1041 1052 1056-1057 1063 1068-1072 1083 1089 1096-1103 1111 1114-1118 1122 1124-1125 1129-1130 1140 1165 1167-1172 1174-1176 1183 1185-1190 1194 1204 1211-1212 1221-1225 1227-1230 1236-1237 1254-1256 1267-1268 1286-1287 1289 1291-1293 1303-1304 1314-1316 1328-1331 1334-1336 1341-1344 1355-1359 1361-1363 1369-1370 1372-1373 1377-1379 1382-1390 1395-1399 1408 1416-1418 1423-1426 1428 1430 1446 1457-1460 1462-1465 1470-1471 1473-1478 1503-1504 1506-1507 1515 1534-1535 1543-1547 1549 1560 1564-1566 1572-1575 1580 1591 1595 1621-1623 1640-1643 1657-1663 1674 1676-1678 1690-1693 1695-1696 1698-1699 1703-1709 1716 1718 1727 1755-1760 1762-1763 1768-1771 1773-1774 1782-1789 1799-1804 1820 1825-1831 1836-1837 1839-1843 1845 1847-1848 1850-1851 1861-1867 1870 1874-1880 1882-1890 1895-1901 1907-1909 1931-1934 1946 1948-1951 1974 2010-2011 2013 2016-2022 2039-2040 2076 2085-2086 2088-2093 2105-2108 2110-2112 2124-2127 2137 2147-2156 2158-2159 2162-2166 2169-2174 2177-2178 2180 2188-2195 2197-2200 2204-2205 2207-2208 2216 2218 2230-2238 2240-2242 2284 2322-2327 2341-2344 2347-2350 2352-2356 2359-2361 2401-2406 2408-2410 2412-2417 2419-2423 2428 2430-2434 2452-2458 2480 2494-2499 2503 2505-2506 2515-2516 2518-2527 2533 2551-2552 2555 2557-2565 2569-2571

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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diaphragm	BioChain	DIA002	229-232 335-337 385-386 436-441 708 923-927 1006-1009 1211- 1212 1299-1301 1498 1541-1542 2806-2807 3560 4250-4255 4884- 4885 6763 7289-7290 7987
endothelial cells	Stratagene	EDT001	9-11 21 24-25 28-29 36 40-45 47 49-51 55-56 66 77-79 168-169 178-179 191-195 215-217 229-233 237-239 246-248 250-259 261- 266 268 270-273 282-284 311-320 323-325 329-331 335-337 340- 341 344 349-361 365-373 375 377 387-400 404-409 423 426-431 433-449 455 461-465 467-468 477 486-489 492-493 500 508-515 517-524 528-529 545-546 552-554 567-570 574-580 584-585 593 595-600 602-604 606-614 616 618-620 622 624 627-629 637-640

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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Genomic clones from the short arm of chromosome 8	Genomic DNA from Genetics Research	EPM001	2251-2252 2254-2263 2266-2275 2277-2281 2994-2997 3533-3536 3538-3547 3549-3558 3916-3921 3923-3932 3934-3936 4765 4776 4787 4798 4809 4821 4832 4843 4854 4865 4876
Genomic clones from the short arm of chromosome 8	Genomic DNA from Genetics Research	EPM003	2251-2252 2254-2263 2266-2275 2277-2281 2994-2997 3533-3536 3538-3547 3549-3558 3628-3629 3916-3921 3923-3932 3934-3936
Genomic clones from the short arm of chromosome 8	Genomic DNA from Genetics Research	EPM004	2251-2252 2254-2263 2266-2275 2277-2281 2994-2997 3533-3536 3538-3547 3549-3558 3628-3629 3916-3921 3923-3932 3934-3936 4765 4776 4787 4798 4809 4821 4832 4843 4854 4865 4876 5928' 7023
esophagus	BioChain	ESO002	28-29 40-42 164-165 477 488 622 624 1110 1112 1115 2232-2233 3567 5752-5754 5918-5919 7289-7290 7808-7810 8024
fetal brain	Clontech	FBR001	178-179 323-325 1116-1118 1202-1203 1205-1207 1395-1399 1409 1428 1430 1486-1488 1694 1697 1701-1702 1737 1739-1740 1782 2024-2026 2147-2152 2710 2712 2899 2919 3023 3025 3087-3091 3093 3116-3117 3150 3322 3585-3586 3717-3718 3720-3722 3732 3867-3870 4021 4329-4330 4341 4805 4884-4885 4906 5641-5642 5760 5771 5782 6702-6703 6934-6937 7587-7589 7790
fetal brain	Clontech	FBR004	40-42 53 658 880-881 1022 1114 1355-1359 1361-1363 1667-1670 1729 1763 1772 1850 1861-1863 1870 1872-1873 1965-1967 2162-2163 2332-2339 2352-2356 2454 2494 2511 2793 2936-2937 3003-3008 3575-3576 3579-3580 3696 3698-3702 3893-3898 3909-3910 3912 3937-3940 4513-4514 4529 4845 4856-4860 5590 6636-6638 7113-7115 7161 7808-7810 8044-8046

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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fetal brain	Clontech	FBRs03	1400 1690 2638 3042 5149 6198 7366 7377-7379 7808-7810
fetal brain	Invitrogen	FBT002	40-42 47 60 69-73 178-179 210-212 237-239 265-266 311-314 335-337 360-361 374 387 389-397 466 477 486-489 500 541-542 603-604 606-614 616 627-629 654-655 744-745 826-827 841-845 872-874 900 902 969 973 979 999-1000 1087-1088 1090-1094 1110 1112 1119 1156-1162 1164 1174-1175 1191-1193 1195-1196 1221-1225 1227 1241-1242 1264-1265 1305-1306 1308-1309 1314-1317 1319 1338 1346-1348 1350-1359 1361-1363 1369 1376-1379 1381 1395-1399 1405-1406 1415 1428 1430 1432-1439 1442-1445 1479-1481 1484-1485 1523-1524 1528 1534-1535 1552-1558 1562-1563 1601 1603 1612 1614-1619 1638-1641 1686-1693 1695-1696 1700 1703-1704 1706 1718 1730-1731 1763 1765-1767 1790 1792-1794 1823-1824 1844 1874-1876 1895-1901 1904-1905 1911-1913 1930-1934 1938-1940 1962 1996-2000 2010-2011 2013 2024-2033 2035-2036 2041 2052 2094-2097 2099-2100 2106-2108 2128-2129 2131-2134 2147-2152 2164-2166 2169-2174 2177-2178 2180-2181 2234-2238 2240-2242 2289-2294 2322-2327 2374 2381-2382 2385 2395-2400 2407 2418 2429 2437 2448 2459 2463 2466-2470 2480 2482

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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fetal heart	Invitrogen	FHR001	229-232 903-904 1124-1125 1239 1305-1306 1308-1309 1355-1359 1361-1363 1690 2204-2205 2207-2208 2533 2638 3039-3040 3506 4053 4066 4320-4323 4325 4969-4971 5752-5754 7289-7290 7641-7643 7771-7772 7987
fetal kidney	Clontech	FKD001	9-11 66 71-72 77-79 196-198 200 229-232 246-248 250-259 261-264 309 335-337 397-398 400 432 450-454 456 476-479 483 486-489 500-504 506 514-515 517 525-526 538 552-556 567-570 602-604 606 645 658 726 753 769 856 872-874 884-885 923-927 954 959 973 999-1000 1006-1010 1051 1101-1103 1124-1125 1131 1151 1192-1193 1195-1196 1213-1214 1216-1218 1221-1225 1227 1264-1265 1286 1318 1327 1338 1355-1359 1361-1363 1371 1380 1391 1395-1399 1402 1408-1413 1462-1465 1470-1471 1534-1535 1559 1561 1563 1648-1652 1680 1694 1697 1768-1771 1904-1905 1936 1947 2016-2022 2076 2102-2105 2110-2112 2137 2177-2178 2180 2200 2204-2205 2207-2208 2284 2322-2327 2350 2359-2361 2455-2458 2496-2497 2575 2638 2678-2682 2708 2744-2745 2750-2753 2762-2764 2767-2768 2787 2792 2808-2812 2898 2909 2940 2973-2974 2982-2987 3039-3040 3094-3095 3101-3102 3104-3105 3111 3116-3117 3122 3212 3219 3222 3230 3233 3311-3313 3325 3332-3333 3439 3468-3469 3499-3501 3521-3523 3575-3576 3579-3580 3583 3600 3695 3713-3714 3726 3749 3763 3777 3799 3817-3819 3890 3900-3901 3956 3998-3999 4055-4056 4091-4097 4231 4260-4264 4332 4369-4371 4465 4472 4523 4618-4619 4628-4631 4633-4642 4644-4649 4698 4710 4744 4747 4791 4847-4853 4972 4978-4980 5124-5126 5128-5130 5149 5151 5162 5204-5205 5207 5216 5218-5221 5233 5336 5338 5356 5399 5510 5540-5542 5590 5594 5605 5616 5627 5872 5875-5878 5918-5919 5956 5961 6022 6025-6029 6103 6108 6124-6128 6413-6414 6641-6642 6696 6837 6839-6848 6857-6859 6861-6862 6973-6977 7014 7098-7107 7109 7119 7175 7230 7238 7280 7285 7296 7307 7318 7329 7342 7353 7370 7377-7379 7423 7425-7426 7441 7587-7589 7634-7635 7706 7808-7810 7839 7841-7845 7967 8012-8016
fetal kidney	Clontech	FKD002	28-29 318-320 385-386 426-430 477 488 552-554 686-688 690-691 1056-1057 1070-1071 1087-1088 1090-1094 1124-1125 1173 1264-1265 1424-1426 1825-1826 1828-1831 1874-1876 2204-2205 2207-2208 2359-2361 5051-5052 5654-5656 7377-7379 7425-7426 7808-

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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fetal lung	Clontech	FLG001	40-42 335-337 602 617 666 668 722-723 979-985 999-1000 1056-1057 1341-1344 1370 1372-1373 1448-1449 1451-1456 1499 1691-1693 1695-1696 1703-1704 1706 1711-1713 1782 1910 2016-2022 2039-2040 2118 2120-2123 2204-2205 2207-2208 2230-2231 2234-2238 2240-2242 2282-2283 2363-2365 2425-2427 2664-2665 2667 2690-2694 2730-2733 2787 2982-2987 3095 3230 3328 3330 3468-3469 3499-3501 3521-3523 3717-3718 3720-3722 4053 4066 4083-4085 4236 4351 4473 4575 4577-4579 4628-4631 4633-4642 4644-4649 4703 4745 4847-4853 4892 4917-4918 4921-4926 4948-4951 5455 5613-5615 5617-5618 5628 5694 5705 5873-5874 6035 6046 6057 6413-6414 6515 6681 6984-6987 7289-7290 7367 7425-7426 7437-7438 7839 8010-8011 8044-8046
fetal lung	Invitrogen	FLG003	19 201 237-239 309 311-314 329-331 338-339 360-361 426-427 433 444 455 545-546 658-662 708 710-719 757-764 766 844-845 883 892 900 902 946-948 979 1001 1031-1035 1073-1080 1165 1177-1179 1243-1245 1355-1359 1361-1363 1395-1399 1408 1462-1465 1549 1560 1562 1604-1606 1640-1641 1657-1663 1705 1716 1727 1755-1760 1762 1773 1775-1777 1843 1974 2016-2022 2039-2040 2124-2129 2131-2134 2136 2284 2345-2349 2363-2365 2389-2390 2428 2430-2432 2528 2539 2545 2556 2567 2638 2682 2706-2708 2730-2733 2750-2753 2787 2808-2812 2898 2909 3039-3040 3078-3080 3082-3086 3101-3102 3104-3105 3151-3155 3209-3211 3213-3215 3356-3357 3457 3468-3469 3628-3629 3738 3741-3742 3764-3765 3791-3794 3806-3807 3809-3810 3913-3915 3937-3940 4016-4020 4053 4066 4091-4097 4114-4120 4136-4142 4144-4146 4150-4153 4157-4162 4164-4171 4218 4220 4307 4351 4377 4606 4659-4663 4667 4837 4847-4853 4872-4875 4877-4880 4917-4918 4921-4926 4981-4984 4986-4989 5090-5093 5095 5131-5132 5142-5143 5212-5215 5807-5810 5862-5868 5870 5977-5978 5987-5988 6147 6304 6404-6406 6413-6414 6454 6491 6850 6899-6900 6913 6933 6973-6977 6991 7012-7013 7016 7087-7089 7126 7186 7191 7197-7203 7256 7377-7379 7570 7600 7602 7609-7610 7676 7678-7680 7696 7698-7700 7808-7810 7874-7879 7954
fetal lung	Clontech	FLG004	265-266 476 478-479 552-554 1056-1057 1165 1365-1368 1424-1426 1552-1558 1690 2699-2704 3260-3261 7118 7121
fetal liver-spleen	Columbia University	FLS001	1 3 7 9-12 14 26-30 39 45 47 49-51 55 66 71-72 77-87 89-98 100-109 112-117 119-121 123-124 144 155 166-167 178-179 199 201-207 210 215-217 222-234 237-243 246-248 250-259 261-266 268 270-279 281-284 295-301 309 311-314 318-320 323-337 340-341 344 349-361 363-383 385-400 404-407 411-420 422 426-456 460 466 476-483 486-489 495-497 500-504 506-515 517-526 528-532 536-538 540-549 551-558 567-571 573-580 584-593 595-604 606-616 618-624 627-645 649-655 658-666 668 672-676 679-681 686-688 690-694 704-708 722-723 729-730 751-753 755 757-764 766-768 771-775 779-785 795 806 816 818-827 829-837 840-849 854-863 867-869 872-874 876-879 883-885 887-891 900 902 905-909 911-913 915-917 919-921 923-927 929-930 932 934 939-943 945 949-950 954 960-961 963-970 973-976 978-985 990-993 995-997 999-1013 1015-1019 1023 1031-1035 1037-1040 1042-1043 1049-1050 1053-1057 1063 1070-1072 1083-1086 1089 1095 1100-1103 1111 1114-1125 1127-1129 1131-1136 1140 1146-1148 1156-1162 1164-1165 1167-1172 1174-1179 1182-1191 1194 1198-1201 1204 1208-1209 1211-1214 1216-1225 1227-1232 1250-1251 1253-1257 1263-1265 1267-1268 1279-1281 1284-1285 1287 1289-1295 1297-1301 1303-1306 1308-1317 1319 1322-1325 1328-1331 1334-1337 1339-1344 1346-1348 1350-1359 1361-1363 1365-1368 1377-1379 1381-1387 1392-1400 1404 1408 1411-1415 1420-1421 1423-1428 1430 1438-1440 1442-1445 1447 1458-1460 1462-1465 1470-1471 1473-1477 1479-1481 1486-1493 1495-1496 1498-1499 1503-1504 1506-1509 1514-1515 1517 1520 1523-1524 1529-1533 1536 1538 1540-1542 1548 1552-1559 1561 1564-1569 1571 1576-1601 1603-

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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fetal liver	Clontech	FLV004	28-29 61-65 78-79 184-187 189-190 299-301 385-386 547-549 551 602 650-653 658 722-723 748-749 939-943 999-1000 1006-1009 1124-1125 1589-1590 1592-1594 1596-1600 1698-1699 1701-1704 1706 1782 1938-1945 2027-2033 2035-2036 2136 2177-2178 2180 2200 2204-2205 2207-2208 2215 2220-2223 2234-2238 2240-2242 2285-2286 2332-2339 2380-2382 2391-2394 2584 2600-2601 2714- 2715 2803-2804 2925-2929 2938-2939 2941-2942 2982-2987 3116- 3117 3122 3133 3171-3172 3506 3937-3940 4060-4062 4104-4105



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fetal spleen	BioChain	FSP001	28-29 385-386 450-454 456 552-554 593 595-596 649 730 1056- 1057 1264-1265 1498 2185-2186 2232-2233 2345-2346 4516 4554 4565 4576 5416 5427 6161-6162 6735 7231 7241 7252 7808-7810 7966
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Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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infant brain	Columbia University	IBM002	218-220 426-427 476 478-479 970 1119 1211-1212 1264-1265 1409 1657-1663 1667-1670 1681-1684 1732-1736 1846 2097 2099-2100 2114-2117 2380 2494 2682 2762 3107 3221 3311 3449-3450 3452 4022 4044 4046 4377 4475 4623-4624 4693 4765 4776 4787 4798 4809 4821 4832 4843 4845 4854 4865 4876 5050 5125-5126 5128-5130 5365 6531 6681 6711-6712 6761 6902 7131 7808-7810
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lung, fibroblast	Stratagene	LFB001	233 267 318-320 329-331 344 355 366 375 377 388 397 399 426-427 431 433-435 444 448-449 455 461-465 467-468 476 478-479 492-493 500 518-524 584-585 602-604 606 613-614 616 618-620 627-629 647-649 659-662 666 668 679-681 704-706 722-723 744-745 769 773 780-782 784 795 806 833-835 859-862 945 959 969 973 1011-1013 1018-1019 1021 1024-1028 1030 1037-1043 1052 1058-1061 1063 1070-1072 1083 1089 1100-1103 1111 1115 1122 1129 1131 1137-1145 1182 1184-1190 1192-1193 1195-1196 1211-1212 1221-1225 1227 1236-1237 1284-1285 1291-1293 1305-1306 1308-1309 1355-1359 1361-1363 1371 1380 1391 1395-1399 1402 1410 1428 1430 1447-1449 1451-1456 1458-1460 1470-1471 1503-1504 1506-1507 1517 1529-1535 1562 1565-1566 1611 1621-1622 1642-1643 1701-1704 1706 1782-1789 1832-1834 1843 1845-1846 1848 1851 1866 1877-1880 1882-1886 1888-1890 1904-1905 1935 1946 1948-1951 1996-2000 2016-2023 2034 2039-2040 2081-2083 2124-2127 2137 2143 2162-2163 2204-2205 2207-2208 2216 2218 2225-2226 2322-2327 2341-2346 2350 2363-2365 2381-2382 2389-2390 2401-2406 2408-2410 2428 2430-2432 2454 2528 2533 2539 2544-2546 2549-2552 2556 2567 2625-2626 2628-2634 2638-2640 2679-2688 2690-2693 2708 2742-2745 2774-2776 2781-2783 2785-2787 2789-2792 2794-2795 2827 2829 2835 2837 2938-2939 2941-2942 2945 2955 2962-2971 3043-3050 3071-3072 3078-3080 3082-3091 3093-3094 3101-3102 3104-3105 3123-3125 3156-3158 3184

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lung tumor	Invitrogen	LGT002	9-11 16-17 25 28-29 36 44 46-48 55 71-76 78-87 89-98 100-109 112-121 123-124 155 164-166 178-179 201-203 215-220 223-228 233 237-239 246-248 250-259 261-264 268 270-273 282-284 297- 298 311-314 318-320 323-331 335-337 340-341 349-351 365 367 374 385-386 397-398 400 426-431 433-435 444-447 455 466 477 483-489 495-497 501-504 506 508-515 517-524 528-529 545-546 555-556 567-571 573 584-592 602-604 606-612 617 627-633 635- 640 649 658 663-664 672-673 686-692 700 704-709 720 724-725 727-729 731 742 747 757-764 766 769 771-772 774-775 780-781 822-825 833-835 840-849 851 854-855 857-858 864-869 872-874 876-877 879 883-885 890 892 910-912 919-921 923-927 930 939- 943 949-950 960-961 963-965 967-970 973 979-985 987 999-1000 1006-1009 1011-1017 1024-1028 1031-1040 1042-1043 1051 1054- 1055 1058-1061 1063 1070-1072 1081 1083 1089 1096-1103 1111 1115-1123 1129 1131-1135 1137-1148 1151 1165 1167-1172 1183 1191 1194 1198-1207 1210-1214 1216-1218 1221-1225 1227-1230 1238 1250 1253 1264-1265 1267-1268 1279-1281 1283 1299-1301 1305-1306 1308-1309 1314-1316 1338-1340 1355-1359 1361-1363 1365-1368 1371 1377-1380 1382-1384 1391 1395-1399 1402 1410- 1413 1415 1419 1423-1427 1438-1439 1442-1445 1447-1449 1451- 1460 1476-1477 1479-1481 1498 1500 1510-1513 1529-1533 1549 1560 1564-1566 1576-1582 1591 1596-1601 1603 1611 1615-1619 1628-1633 1635 1640-1644 1646 1648-1652 1671-1673 1681-1684 1686-1699 1703-1704 1706 1711-1713 1718-1725 1737 1739-1740 1755-1760 1762-1763 1768-1771 1773 1775-1777 1780 1782-1794 1798 1806 1809 1836-1843 1845 1867 1877-1887 1892 1895-1901 1911-1918 1922-1935 1946 1948-1957 1960-1961 1968-1969 1971- 1972 1974 1976 2002-2008 2010-2011 2013-2022 2024-2033 2035- 2036 2038-2062 2066-2075 2077-2086 2088-2093 2101 2103-2105 2114-2117 2124-2127 2137-2144 2146 2155-2159 2164-2166 2168- 2170 2179 2181-2200 2204-2208 2216-2218 2228 2232-2242 2244 2251-2263 2265-2275 2277-2281 2285-2286 2319-2327 2332-2339 2345-2346 2350 2352-2356 2359-2361 2363-2365 2374 2381-2382 2385 2387-2388 2396 2401-2410 2412-2423 2425-2435 2437 2439- 2444 2448 2459 2466-2470 2480 2482-2492 2495-2503 2505-2506 2515-2516 2518-2527 2533 2544 2546 2549-2550 2553-2555 2557 2564-2565 2569-2571 2575-2577 2584-2586 2588-2589 2595-2597 2603-2605 2613-2615 2617-2620 2629-2636 2638 2641-2644 2674- 2676 2682-2686 2688 2690-2697 2699-2704 2708 2710 2712 2714- 2715 2729-2733 2738 2746 2750-2753 2757 2763 2778-2783 2785- 2787 2789-2792 2795 2803-2804 2808-2820 2823-2824 2835 2837- 2838 2842-2843 2846 2851 2900-2908 2910-2914 2922 2924 2934- 2935 2938-2939 2941-2942 2945 2952-2955 2973-2977 3002-3008 3011-3012 3014-3015 3039-3040 3042-3050 3056-3063 3087-3091 3093 3095 3101-3102 3104-3105 3108 3116-3117 3123-3125 3134- 3135 3151-3158 3195-3196 3206 3212 3217-3219 3222-3224 3226 3233 3236-3237 3260-3264 3266 3278-3279 3286 3289-3295 3297 3310 3313 3326-3327 3332-3333 3337 3353 3412-3415 3421 3431- 3432 3438-3439 3449-3450 3452 3458-3459 3465 3485 3491-3493 3496-3498 3506-3507 3515 3517-3519 3526 3560 3584 3590-3596 3598-3599 3617 3620-3624 3626 3631 3635 3639-3656 3658-3667 3669-3672 3674 3677-3678 3688 3695 3713-3714 3719 3728 3730



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Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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melanoma from cell line ATCC #CRL 1424	Clontech	MEL004	9-11 25 28-29 36 60-65 178-180 233 267 315-320 404-409 428-430 433 442-444 450-456 461-465 467-468 500 514-515 517-521 541- 542 552-554 571 573 584-585 603-604 606 618-620 637-640 666 668 670-671 726 732-741 743 757-764 766 833-835 851 915-917 969 973 987-988 991-997 1018-1019 1058-1062 1120-1121 1123- 1125 1131 1136 1167-1172 1176 1185-1190 1250 1253 1288 1355- 1359 1361-1363 1377-1379 1381 1395-1399 1424-1426 1428 1430 1448-1449 1451-1456 1484-1485 1489-1493 1495-1496 1517 1541- 1542 1572-1575 1648-1652 1657-1663 1680 1686-1689 1765-1767 1772 1782-1790 1792-1794 1843 1845 1868-1869 1877-1880 1882- 1886 1903-1905 1922 1968-1969 1971-1972 2010-2011 2013 2038- 2040 2081-2083 2085-2086 2088-2091 2105 2143 2162-2163 2181 2234-2238 2240-2242 2289-2294 2345-2346 2350 2359-2361 2381- 2382 2425-2427 2433-2434 2450-2451 2503 2505-2506 2564-2565 2580-2583 2638 2646-2654 2656-2665 2667 2674-2676 2682 2744- 2745 2781-2783 2785-2787 2795 2798-2802 2827 2829 2856 2865 2876 2982-2987 3043-3050 3071-3077 3081 3087-3093 3103 3111 3114 3116-3117 3123-3125 3212 3218 3220 3222-3224 3233-3235 3286 3342 3416-3417 3419 3439 3454-3456 3458-3459 3499-3501 3560 3600 3683 3713-3714 3717-3718 3720-3722 3743 3796 3802 3821-3822 3867-3870 3887 3891 3899 3954 4015 4133 4183-4185 4286 4309-4310 4336-4340 4344-4345 4347-4349 4357 4368 4372 4379 4415 4425 4440 4465 4488 4561 4628-4631 4671-4672 4702 4781-4784 4813 4817 4838-4841 4904 4907-4908 4910 4973 5014- 5017 5056-5060 5062 5131-5132 5136-5137 5141 5303 5336 5520- 5522 5577 5594 5605 5616 5627 5657-5659 5661-5663 5677-5680 5694 5705 5715 5717-5718 5814 5823 5825 5836 5847 5851-5852 5858 5873-5874 5914 6088 6143-6144 6153-6154 6260-6265 6267- 6274 6336 6420 6422 6450-6451 6453 6479 6506-6507 6509 6583- 6584 6586-6587 6643 6702-6703 6727 6755-6758 6804 6806 6851- 6855 7108 7116 7120 7168 7194-7195 7408 7419 7461-7465 7472

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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mammary gland	Invitrogen	MMG001	9-11 19 22-23 25 36 39-42 45 55 66 74-87 89-98 100-109 112-117 119-121 123-124 131-132 134 136-143 145-163 166 168-169 202- 203 205-206 211-212 237-239 265-266 274-277 282-284 286-290 295-296 318-320 323-328 335-337 340-341 360-361 374 382-383 387 389-397 404-407 423 426-431 434-435 448-454 456 466 476- 489 508-513 525-526 536-537 540-542 555-556 559-560 562 567- 570 574-580 586-593 595-596 602-604 606-612 617 627-633 635- 636 654-655 658-662 666 668 684 686-688 690-692 707-708 722- 725 729 747 757-764 766 771 773 780-782 784 795 806 816 818 823-825 840-849 852-853 859-862 864-867 869 872-874 887-889 891 900 902 905-909 913 919-921 929 937 945-948 951-953 956 959 962-965 967-969 973 979-985 988 994 999-1001 1018-1019 1022 1036-1040 1042-1043 1051 1053 1056-1057 1063 1070-1080 1083 1089 1100 1104-1109 1111 1115-1118 1122 1124-1125 1127- 1129 1133-1135 1140 1151 1156-1160 1165 1174-1175 1177-1179 1181 1183 1191-1196 1202-1209 1213-1214 1216-1218 1221-1225 1227 1231-1232 1238 1241-1242 1254-1257 1264-1265 1279-1281 1288 1291-1293 1299-1301 1303-1306 1308-1309 1314-1317 1319 1323-1325 1346-1348 1350-1359 1361-1363 1365-1369 1374-1375 1395-1399 1404 1411-1413 1428 1430 1447 1458-1460 1462-1465 1470-1471 1473-1477 1479-1481 1486-1493 1495-1496 1498 1500 1510-1513 1518-1519 1523-1524 1529-1533 1572-1575 1580 1584 1591 1601 1603-1606 1612 1614-1619 1621-1622 1628-1633 1635 1640-1641 1644 1646 1648-1652 1657-1663 1680-1684 1686-1699 1701-1709 1716 1718 1727 1730-1731 1747-1748 1751-1762 1790 1792-1794 1796-1798 1806 1809 1832-1834 1846 1850 1856 1858- 1865 1867 1870 1887-1890 1895-1901 1903-1905 1911-1913 1919- 1920 1923-1924 1926-1934 1938-1945 1963 1965-1969 1971-1972 1977-1978 1980-1989 1991-1995 2002-2008 2010-2011 2013 2016- 2022 2027-2033 2035-2036 2063 2081-2083 2087 2103-2104 2106- 2108 2110-2112 2114-2118 2120-2127 2137 2147-2152 2171-2174 2177-2178 2180-2181 2185-2186 2188-2195 2197-2203 2209-2214 2225-2226 2234-2238 2240-2242 2285-2286 2319 2328 2330-2339 2341-2349 2352-2356 2369-2370 2381-2382 2387-2394 2401-2406 2408-2410 2412-2417 2419-2423 2425-2428 2430-2432 2435 2439- 2444 2449-2451 2454 2466-2469 2480 2483-2484 2490-2491 2494 2498-2499 2503 2505-2506 2509 2528 2533 2539 2545 2555-2557 2563 2567 2572-2577 2584 2590-2594 2599-2601 2613-2615 2621- 2626 2628-2634 2638 2641-2642 2668-2670 2674-2676 2678-2682 2690-2693 2699-2704 2706-2708 2710 2712 2716-2721 2723-2725 2729-2733 2737-2741 2744-2746 2750-2753 2757 2762 2764 2766- 2770 2772 2787 2789-2791 2795 2806-2813 2835 2837 2849-2850 2853-2854 2857-2858 2900-2908 2921 2930-2931 2943-2944 2946- 2948 2951-2954 2975-2976 2989-2990 2992-2993 3009 3015-3017 3039-3040 3043-3050 3052 3070-3080 3082-3086 3095-3096 3098- 3099 3101-3102 3104-3105 3108 3116-3117 3134-3135 3151-3158 3160-3168 3179-3180 3212 3222 3233-3235 3262-3264 3271-3272 3278-3279 3283 3287 3299-3302 3310 3322 3324 3355-3361 3364- 3373 3375-3384 3386-3389 3398-3400 3431-3434 3436-3439 3449- 3450 3452 3458-3459 3485 3499-3501 3506 3560 3592-3596 3602 3610-3613 3615-3616 3620-3622 3634 3636-3638 3676 3719 3728 3730 3732 3741-3743 3749 3760 3764-3766 3769 3776 3782 3786 3788-3794 3796-3797 3801 3806-3807 3809-3810 3813 3821-3822 3824 3830 3840-3842 3899 3906-3907 3937-3941 3943 3945 3951- 3954 3965 3973 3978-3985 3987-3990 3996-3997 4002-4006 4009 4015-4016 4024-4025 4035-4039 4041 4048-4049 4055-4056 4063- 4064 4067-4068 4087 4089-4097 4106-4108 4114-4120 4138-4142 4144-4146 4150-4153 4172-4173 4176 4181 4183-4185 4189-4190 4213 4218 4220 4240 4242 4250-4258 4287-4288 4295 4298-4301 4303 4309-4310 4320-4323 4325-4328 4344-4345 4347-4349 4357 4368-4371 4373-4374 4378-4379 4386 4392-4396 4415 4433 4436 4443 4445-4449 4453 4459 4461 4470 4475 4486 4490-4493 4505- 4508 4533-4539 4544-4546 4554 4560-4561 4565 4571-4574 4576 4621 4632 4643 4659-4664 4666 4668-4669 4671-4674 4687 4693 4698-4701 4707 4710 4728-4729 4734-4735 4765 4768 4776 4787 4791 4796-4798 4806-4810 4814-4815 4818-4819 4821-4823 4832

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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induced neuron cells	Stratagene	NTD001	40-42 246-248 250-259 261-266 335-337 411-420 422 428-430 555- 556 567-570 613-614 616 703 771 854-855 858 872-874 915-917 969 1006-1009 1018 1056-1057 1063 1072 1083-1085 1089 1100 1111 1122 1129 1140 1264-1265 1291-1293 1382-1384 1395-1399 1529-1535 1615-1619 1657-1663 1701-1702 1718 1772 1783-1790 1792-1794 1843 1847 1864-1865 1996-2000 2016-2022 2024-2026 2081-2083 2105-2108 2204-2205 2207-2208 2220-2223 2322-2327 2332-2339 2345-2346 2350 2363-2365 2369-2370 2575 2625-2626 2628 2638 2641-2642 2672-2673 2679-2682 2742-2743 2792 2798- 2802 2835 2837 2919 2938-2939 2941-2942 3011-3012 3014 3039- 3040 3056-3063 3096 3116-3117 3123-3125 3134-3135 3150-3155 3230 3354 3395 3560 3617 3889 3958-3964 3977 3990 4017-4020 4087 4089-4090 4256-4258 4289 4329-4330 4406 4446-4449 4547- 4548 4571-4574 4623-4624 4664 4666 4781-4784 4802 4811 4827- 4831 5137 5141 5272 5274 5448 5563 5566-5569 5631-5632 5644 5654-5656 5694 5705 5791-5792 5794-5799 5908-5909 6022 6025- 6029 6092 6186-6188 6191 6198 6260-6265 6267-6274 6294 6360 6413-6414 6424-6427 6658-6660 6662-6666 6727 6883 7049-7051 7130 7146 7328 7375 7377-7379 7386 7441 7641-7643 7790 7808- 7810 7996
retinoic acid- induced neuronal cells	Stratagene	NTR001	9-11 28-29 178-179 323-325 431 434-441 477 486-489 559-560 562 666 668 844-845 949-950 969 1070-1071 1146-1148 1174-1175 1264-1265 1299-1301 1355-1359 1361-1363 1783-1789 1843 2200 2345-2346 4102-4103 4748 4791 5272 5274 7291-7293 7771-7772 7808-7810
neuronal cells	Stratagene	NTU001	28-29 71-72 80-87 89-98 100-109 112-118 340-341 368-373 477 488 501-504 506 552-554 584-592 666 668 686-688 690-691 707 826-827 841-845 854-855 858 872-874 900 902 911-912 919-921 949-953 956 963-965 967-968 1006-1009 1011-1013 1015-1018 1056-1057 1124-1125 1156-1160 1243-1245 1264-1265 1299-1301 1303-1304 1346-1348 1350-1359 1361-1363 1438-1439 1442-1445 1458-1460 1552-1558 1572-1575 1587-1588 1601 1603 1621-1622 1703-1704 1706 1747-1748 1751-1754 1845 1862-1863 1895-1901

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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pituitary gland	Clontech	PIT004	66 77 318-320 382-383 461-465 467-468 518-521 613-614 616 649 666 668 980-985 1056-1057 1165 1202-1203 1205-1207 1228-1230 1257 1284-1285 1303-1304 1576-1578 1648-1652 1654 1701-1702 1711-1713 1749 1783-1789 1849 1857 1977-1978 1980-1989 1991 2002-2008 2039-2040 2106-2108 2234-2238 2240-2242 2345-2346 2350 2533 2553-2554 2563-2565 2575 2629-2631 2638 2682 2787 3096 3151-3155 3212 3218 3222 3233 3422 3499-3501 3521-3523 3560-3561 3602 3613 3732 3788-3790 3867-3870 3902 3976 3996 4024-4025 4035-4039 4391 4445 4549-4550 4552-4553 4625 4664 4666 4668-4669 4703 5125-5126 5128-5130 5136 5203 5452-5454 5478-5480 5681 5987-5988 5998-6001 6130 6183 6220-6221 6862 7062 7186 7197 7790 7871-7872 8044-8046
placenta	Clontech	PLA003	205-206 282-284 385-386 552-554 844-845 1124-1125 2124-2127 2204-2205 2207-2208 2955 3026-3034 3036-3038 3732 4091-4097 4326-4328 5654-5656 5841-5845 6319-6320 6322-6330 6450-6451 6453 7808-7810
prostate	Clontech	PRT001	40-42 214 233 282-284 318-320 408-409 426-427 436-441 450-454 456 500 518-521 567-570 581-582 584-585 593 595-596 618-620 637-640 647-649 658 672-673 707 726 732-741 743 872-874 969 1005 1031-1035 1037-1040 1042-1046 1056-1057 1086 1101-1103 1115 1165 1167-1172 1191 1221-1225 1227-1230 1258 1261 1305- 1306 1308-1309 1355-1359 1361-1363 1365-1368 1382-1384 1411- 1413 1416-1419 1447 1473-1475 1500 1541-1547 1550-1551 1559 1561 1580 1591 1612 1614-1619 1644 1646 1674 1676-1678 1686- 1689 1737 1739-1740 1775-1777 1783-1789 1823-1826 1828-1831 1843 1862-1863 1887 1904-1905 1910 1922 1941-1945 1968-1969 1971-1972 2010-2011 2013 2084-2086 2088-2091 2118 2120-2123 2136-2137 2144 2201-2203 2216 2218 2345-2346 2350 2359-2361 2389-2390 2425-2428 2430-2432 2450-2451 2464-2465 2480 2495 2500-2502 2533 2544 2546 2549-2552 2558-2562 2584-2586 2588- 2589 2627 2706-2707 2742-2745 2787 2789-2791 2795 2823-2824 2842-2843 2922 2924 2943-2944 2955 2982-2987 3095 3116-3117 3227-3229 3271-3272 3303 3305 3313 3398-3400 3436-3437 3485 3499-3501 3517-3519 3585-3586 3588-3589 3631 3679 3681 3732 3736-3737 3739 3755-3757 3766 3777 3783-3784 3802 3828 3851- 3852 4063 4067-4068 4072-4074 4183-4185 4286-4288 4341 4355- 4356 4358-4360 4387 4392-4395 4401 4404-4405 4433 4443 4464 4466-4467 4473 4505-4508 4628-4631 4650 4699-4701 4703 4753 4755-4756 4774-4775 4937-4939 4959-4962 4997-4998 5002-5006 5008-5009 5056-5060 5062 5090-5093 5095 5137 5141 5171-5172 5174-5175 5399 5420 5435 5457 5526 5573 5583 5610-5611 5949 5962-5963 5966-5967 6004 6007 6069 6198 6202-6203 6235-6237 6292 6333-6335 6443-6446 6479 6612 6687-6688 6735 6771 6782 6794 7087-7089 7238 7248 7284 7286-7287 7377-7379 7462-7465 7482 7499 7624-7627 7667 7738-7739 7928-7930 7932-7933 7987 8001 8034-8035 8044-8046
rectum	Invitrogen.	REC001	40-42 123-124 265-266 282-284 323-327 387 389-396 404-409 411- 420 422-423 476 478-482 484-487 489 500 518-521 559-560 562 586-592 617 674-676 744-745 747 823-825 841-843 892 896-899 969 979 990 1022 1036 1115-1118 1120-1121 1123 1213-1214 1216-1218 1447 1479-1481 1563 1572-1575 1580 1591 1604-1606 1612 1614 1640-1643 1657-1663 1679 1686-1697 1703-1704 1706

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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salivary gland	Clontech	SAL001	2 55 110 178-179 181-183 221 237-239 246-248 250-259 261-264 282-284 321 323-325 328-331 335-337 340-343 345-348 476-479 484-485 488 508-513 545-546 552-554 649 663-664 708 747 773 784 795 806 838 844-845 859-862 872-874 1019 1036 1049 1081 1133-1135 1165 1202-1203 1205-1209 1211-1212 1303-1304 1328-1331 1346-1348 1350-1359 1361-1363 1427 1462-1465 1498 1657-1663 1681-1684 1698-1699 1730-1731 1772 1782 1843 1845 1877-1886 1892 1895-1901 1931-1934 2010-2011 2013 2039-2040 2136 2141 2146 2157 2168 2179 2187 2196 2206 2217 2228 2232-2242 2244 2253 2265 2352-2356 2359-2361 2363-2365 2504 2510 2517 2544 2546 2549-2550 2555 2557 2564-2565 2575 2600-2601 2638 2682 2690-2693 2699-2704 2787 2842-2843 2846 3011-3012 3014 3039-3040 3043-3050 3095 3116-3117 3160-3168 3179-3180 3212 3222 3233 3323 3398-3400 3425-3428 3431-3432 3560 3575-3576 3579-3580 3626 3639-3645 3647-3656 3658-3667 3670-3672 3696 3698-3702 3749 3799 4002 4009 4035-4039 4207 4209 4218 4220 4265 4357 4368 4379-4382 4389 4400 4487 4598 4625 4696 4726-4727 4737-4739 4745 4796-4797 4814-4815 4817 4884-4885 4976-4977 5082 5166-5167 5270-5272 5274 5337 5455 5482 5484-5485 5501-5504 5506-5509 5537 5539 5645-5648 5654-5656 5761-5763 5833-5834 5873-5874 5934-5935 5937-5938 6163 6293 6411 6443-6446 6547-6548 6771 6782 6794 6851-6854 7453-7460 7487-7489 7512 7779-7780 7808-7810 7922-7923 7993-7995
salivary gland	Clontech	SALs03	484-485 613-614 616 887-889 891 1355-1359 1361-1363 2510 2517 6684 6695 7377-7379 7580 7590 7601 7612 7622 7633
skin fibroblast	ATCC	SFB001	903-904 1355-1359 1361-1363 1874-1876 2533 2638 2682 2744-2745 3212 3222 3233 3260-3261 3417 3419 4526-4527 4561 6198 6260-6265 6267-6274
skin fibroblast	ATCC	SFB002	584-585 903-904 1058-1061 1317 1319 1355-1359 1361-1363 1621-1622 2395 2397-2400 2638 3212 3222 3233 4102-4103 4369-4371 4526-4527 4745 5694 5705 6198 6260-6265 6267-6274
skin fibroblast	ATCC	SFB003	477 488 584-585 1231-1232 1355-1359 1361-1363 2016-2022 4526-4527 5918-5919 6198
small intestine	Clontech	SIN001	80-87 89-98 100-109 112-117 210 476 478-479 484-485 501-504 506 514-515 517 552-554 584-585 617 686-688 690-691 707 722-723 726 732-741 743 747 829-832 841-843 872-874 878 887-889 891 900 902 905-909 915-917 962 969 980-985 1005 1070-1071 1176 1247-1249 1286 1339-1340 1346-1348 1350-1354 1392-1394 1409 1420 1473-1475 1681-1684 1690 1703-1704 1706 1737 1739-1740 1775-1778 1796-1797 1848 1851 1881 1892 1895-1901 1935 2016-2023 2034 2137 2230-2231 2352-2356 2359-2361 2401-2406 2408-2410 2494 2564-2565 2613-2615 2708 2750-2753 2774-2776 2803-2804 2839-2841 2851 2855 2930-2931 2938-2939 2941-2942 2955 3020-3022 3144-3146 3149 3217 3255 3299-3302 3362 3385 3396 3422 3499-3501 3520 3560 3605 3614 3639-3645 3647-3656 3658-3667 3670-3672 3675 3717-3718 3720-3722 3732 3777 3803 3904-3905 3988-3989 4002 4201-4202 4271-4272 4281 4341 4433 4443 4445 4461 4490 4554 4565 4576 4607-4609 4611-4613 4628-



Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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skeletal muscle	Clontech	SKM001	7 178-179 229-232 246-248 250-259 261-264 323-325 332 334 404-407 428-430 476-479 488 627-629 744-745 748-749 771 773 784 795 806 863 878 880-881 887-889 891 900 902-904 911-912 919-921 990 1146-1148 1273-1275 1299-1301 1370 1372-1373 1395-1399 1498 1517 1596-1600 1714 1730-1731 1755-1760 1762 1845 1887 1895-1901 2027-2033 2035-2036 2105 2188-2195 2197-2199 2234-2238 2240-2242 2425-2427 2452-2453 2466-2469 2529-2531 2584 2716-2717 2744-2745 2950 2961-2972 2980 2991 3276 3430-3432 3468-3469 3548 3560 3581-3582 3615-3616 3937-3940 4010-4011 4016 4172-4173 4176 4244-4245 4320-4323 4325 4373-4374 4446-4449 4455 4650 4708 4711 4728-4729 4737-4739 4847-4853 4897 4969-4973 5441 5478-5480 5591-5593 5595-5596 5752-5754 6040-6042 6092 6443-6446 6553-6554 6601 6605 6715-6716 6933 7123-7125 7190 7289-7290 7512 7517 7551-7553 7738-7739 7779-7780 7987 8024
skeletal muscle	Clontech	SKM002	584-585 887-889 891 903-904 1888-1890 3548 3592-3596 6260-6265 6267-6274
skeletal muscle	Clontech	SKMS03	584-585 887-889 891 903-904 1888-1890 7551-7553
skeletal muscle	Clontech	SKMS04	887-889 891 903-904 1198-1201 1888-1890 2638 4847-4853 7098-7107 7109
spinal cord	Clontech	SPC001	9-11 40-42 53 66 71-73 77 80-87 89-109 112-117 123-124 133 178-179 194-195 246-248 250-259 261-264 282-284 311-314 328 335-337 375 382-383 397 411-420 422 426-427 433 444-447 455 476-479 488 500 508-515 517 528-529 545-546 552-554 584-585 597-600 602 630-633 635-636 647-648 659-662 666 668 686-688 690-691 708 729 771 780-781 876-877 923-927 929 959-961 969 973 979 988 994 999-1000 1002-1003 1006-1009 1031-1035 1063 1072-1080 1083 1089 1100 1111 1114-1115 1122 1124-1125 1129 1136 1140 1202-1203 1205-1207 1241-1242 1299-1301 1305-1306 1308-1309 1341-1344 1346-1348 1350-1359 1361-1363 1365-1368 1395-1399 1448-1456 1461 1472 1484-1485 1499 1525 1528 1534-1535 1612 1614 1621-1622 1648-1652 1657-1663 1665-1666 1698-1704 1706 1718 1732-1736 1738 1747-1748 1750-1760 1762-1763 1775-1777 1783-1789 1836-1837 1839-1843 1845 1862-1863 1866-1867 1874-1876 1895-1901 1910 1923-1924 1926-1929 1935 1938-1940 1965-1967 1977-1978 1980-1989 1991 1996-2001 2010-2013 2016-2023 2034 2039-2041 2052 2063 2118 2120-2123 2136 2143 2153-2154 2216 2218 2220-2223 2234-2238 2240-2242 2276 2289-2294 2319-2321 2345-2350 2352-2356 2359-2361 2466-2469 2494 2509 2534-2538 2540-2543 2551-2552 2558-2562 2564-2565 2575 2579 2584-2586 2588-2589 2632-2634 2638 2679-2686 2688 2690-2693 2714-2715 2772 2787 2798-2804 2813 2823-2824 2839-2841 2856 2865 2876 2921 2930-2931 2933 2946-2948 2950-2951 2955 2961-2972 2980 2982-2987 2989-2993 3020-3022 3039-3040 3052 3056-3063 3078-3080 3082-3091 3093 3095 3101-3102 3104-3105 3116-3117 3120 3150-3155 3183 3194 3203 3221 3223-3224 3234-3235 3246-3248 3299-3302 3347 3350 3363 3374 3393 3433-3434 3454-3456 3499-3502 3506 3521-3523 3560 3605 3681-3682 3713-3714 3762 3791-3794 3806-3807 3809-3810 3814 3832-3833 3853-3854 3856-3859 3862-3865 3867-3870 3887 3909-3910 3912 3986 3990 3998-3999 4010-4011 4064 4102-4103 4126 4183-4185 4193 4230 4241 4248 4287-4288 4373-4374 4396 4429 4464 4466-4467 4473 4483 4490 4549-4550 4552-4553 4587 4590-4591 4599 4610 4633-4642 4644-4649 4651-4653 4655-4658 4732 4749 4838-4841 4847-4853 4884-4885 4893-4896 4899 4906 4952 4954-4958 4978-4980 5002-5006 5008-5009 5094 5118-5120 5138 5144-5146 5156-5161 5163 5173 5184 5195 5206 5216 5218-5221 5223 5228-5232 5236-5240 5329-5330 5333-5335 5376-5380 5435 5441 5452-5454 5462-5463 5478-5480 5497 5534-5536 5631-5632 5634 5636 5667-5670 5694 5705 5707 5713-5714 5786 5862-5868 5870 5872 5979 5981-

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thalamus	Clontech	THA002	168-169 349-354 356-361 374 382-383 432 436-441 476 478-479 528-529 538 581-582 603-604 606 645 666 668 744-745 753 757- 764 766 780-781 816 818 841-843 856-857 868 879 890 945 954 963-965 967-969 979 1073-1080 1120-1121 1123 1165 1185-1190 1202-1203 1205-1209 1290-1293 1305-1306 1308-1309 1374-1375 1385-1387 1395-1399 1478 1628-1633 1635 1640-1641 1665-1666 1691-1693 1695-1696 1703-1704 1706 1730-1731 1746 1763 1790 1792-1794 1796-1797 1845 1881 1892 1904-1905 1923-1924 1926- 1929 1931-1934 1965-1967 1996-2000 2188-2195 2197-2199 2204- 2205 2207-2208 2289-2294 2347-2349 2352-2356 2359-2361 2383- 2384 2386 2425-2427 2535-2538 2540-2543 2564-2565 2575-2577 2682 2690-2693 2716-2717 2737 2739-2741 2772 2781-2783 2785- 2786 2853-2854 2857-2858 3087-3091 3093 3096 3101-3102 3104- 3105 3229 3234-3235 3310 3358-3361 3364-3373 3375-3384 3386- 3388 3449-3450 3452 3491-3493 3495 3499-3501 3513 3601 3603- 3604 3715 3788-3790 3843 3853-3854 4035-4039 4138-4142 4144- 4146 4250-4255 4309-4310 4320-4323 4325 4369-4371 4373-4374 4392-4395 4416-4417 4491-4493 4616-4617 4842 4844 4847-4853 4952 4954-4958 4965 5069-5070 5168-5169 5272-5274 5284 5409 5443 5540-5541 5657-5659 5661-5663 5678-5680 5913 6148-6152 6195-6196 6209-6211 6249-6250 6306-6309 6368-6369 6394 6421 6432 6450-6453 6708 6727 6761 6837 6839-6848 6915 6917-6918 6943-6947 6988-6989 7029-7030 7049-7051 7179-7180 7222 7328 7400-7405 7587-7589 7647 7677 7686 7697 7736 7874-7879 7943 7993-7995
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Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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thymus	Clontech	THMc02	69-11 20-21 55 61-66 77 80-87 89-98 100-109 112-118 122-124 164-165 196-197 223-233 246-248 250-259 261-266 318-320 360- 361 368-374 387 389-396 432 448-454 456 476-479 488 495-497 501-504 506 514-515 517 525-526 533-535 538 545-546 552-554 586-593 595-596 607-612 645 649 658 663-664 670-671 686-688 690-691 704-706 708 710-719 732-741 743 753 757-764 766 771 780-781 822 844-845 856 884-885 900 902 919-921 929 949-950 954 973-976 978-985 988 994 1005 1024-1028 1031-1035 1049 1054-1055 1065-1067 1087-1088 1090-1094 1115 1120-1121 1123- 1125 1127-1128 1133-1135 1156-1160 1174-1175 1183 1192-1196 1198-1201 1204 1210 1221-1225 1227 1231-1232 1264-1265 1279- 1281 1284-1285 1314-1316 1334-1336 1355-1359 1361-1363 1365- 1368 1371 1380 1382-1384 1391-1394 1402 1410 1422 1424-1426 1428 1430 1448-1449 1451-1456 1462-1465 1486-1488 1498 1501 1503-1504 1506-1507 1510-1513 1543-1547 1552-1559 1561 1572- 1578 1587-1588 1595 1611 1640-1641 1648-1653 1680-1684 1686- 1689 1703-1704 1706-1709 1711-1713 1737 1739-1740 1782-1789 1807 1820 1827 1836-1837 1839-1842 1862-1863 1872-1873 1881 1892 1895-1901 1904-1905 1914 1925 1935 1975 2010-2011 2013 2024-2033 2035-2036 2039-2040 2081-2086 2088-2091 2110-2112 2128-2129 2131-2134 2143 2147-2152 2171-2174 2188-2195 2197- 2199 2204-2205 2207-2208 2230-2231 2234-2238 2240-2242 2285- 2286 2288-2294 2345-2349 2352-2356 2359-2361 2374 2385 2387- 2394 2396 2407 2412-2423 2425-2427 2429 2437 2439-2444 2448 2454 2459 2464-2465 2470 2482 2490-2491 2504 2511 2515-2516 2518-2527 2558-2562 2595-2597 2607-2611 2613-2615 2617-2626 2628-2631 2635-2636 2641-2642 2668-2670 2682-2686 2688 2690- 2693 2708 2718-2721 2723-2725 2729 2738 2742-2743 2746 2757 2764 2767-2768 2772 2781-2783 2785-2786 2798-2804 2808-2812

Tissue Origin	Tissue/ RNA Source	Library Name	SEQ ID NO:
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thyroid gland	Clontech	THR001	28-29 44-45 55 144 178-179 205-206 229-233 246-267 269 280 318- 320 323-327 332 334-337 340-341 349-354 356-361 365 367 374 376 378-381 385-387 389-398 400 408-409 428-432 434-443 445- 449 461-465 467-468 476 478-479 514-515 517 522-526 528-529 536-540 550 552-554 559-560 562 574-582 586-593 595-596 602 607-612 617 622 624 630-633 635-640 645 647-649 654-655 657- 658 666 668 670-676 685 704-707 710-719 722-723 747 753 768 770-772 774-775 780-782 840-845 851 854-856 858 872-874 878 880-881 884-885 900 902-909 911-912 914-917 923-927 929 938- 943 954 963-965 967-970 973 979 999-1000 1002-1003 1005-1009 1015-1020 1031-1035 1037-1040 1042-1043 1054-1057 1063 1068- 1069 1072 1081 1083 1087-1094 1100-1103 1110-1112 1115 1119- 1123 1129-1130 1136 1140 1165 1167-1173 1176 1183 1192-1196 1204 1210 1213-1214 1216-1218 1228-1230 1236-1237 1246-1249 1257 1283 1291-1293 1303-1304 1314-1317 1319 1322 1328-1331 1341-1344 1349 1355-1359 1361-1363 1370 1372-1375 1382-1390 1395-1399 1404 1411-1413 1415-1419 1424-1426 1446-1449 1451- 1456 1458-1460 1462-1465 1476-1477 1486-1488 1498-1499 1503- 1504 1506-1507 1510-1513 1515 1536 1538 1562 1565-1566 1580 1591 1595 1601 1603 1611 1627 1653 1657-1663 1679 1690-1693 1695-1696 1698-1699 1701-1706 1711-1713 1716 1727 1730-1731 1738 1750 1755-1760 1762-1763 1772-1773 1775-1777 1779 1781- 1790 1792-1794 1796-1797 1820 1825-1831 1843 1845 1857 1871 1877-1880 1882-1887 1895-1901 1904-1905 1911-1918 1922-1929 1931-1935 1962 1974 1992-2000 2002-2008 2010-2011 2013-2022 2024-2033 2035-2036 2039-2040 2081-2083 2085-2086 2088-2091 2102-2109 2114-2117 2136-2138 2143 2147-2156 2158-2159 2162- 2163 2171-2174 2181 2188-2195 2197-2203 2209-2214 2216 2218 2220-2223 2225-2227 2229-2238 2240-2242 2251-2252 2254-2263 2266-2281 2289-2294 2328 2330 2332-2339 2341-2344 2350 2352- 2356 2359-2361 2371-2372 2375 2381-2384 2386 2391-2394 2425- 2428 2430-2432 2435 2439-2444 2449-2454 2464-2465 2476-2478 2480 2490-2491 2507 2512-2514 2529-2531 2533 2535-2538 2540- 2543 2551-2554 2563-2565 2569-2571 2576-2577 2584-2598 2600- 2601 2629-2631 2635-2636 2639-2642 2672-2676 2679-2682 2695- 2697 2708-2709 2716-2717 2750-2756 2758-2760 2763-2764 2767-

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trachea	Clontech	TRC001	19 54 56 178-179 360-361 365 367 450-454 456 484-485 500 586- 592 603-604 606 613-614 616-617 657-658 663-664 674-676 747 782 837 872-874 893-895 914 938-943 980-985 1070-1071 1101- 1103 1115-1118 1137-1139 1141-1145 1156-1160 1174-1175 1219- 1220 1236-1237 1291-1293 1303-1304 1338 1411-1413 1419 1424- 1427 1450 1461 1472 1604-1606 1621-1622 1694 1697 1796-1797 1845 1856 1990 2010-2011 2013-2015 2102 2118 2120-2123 2136 2155-2156 2158-2159 2220-2223 2289-2294 2345-2346 2350 2363- 2365 2439-2444 2492 2498-2499 2555 2557 2580-2583 2585-2586 2588-2589 2612 2632-2634 2674-2676 2694 2744-2745 2774-2776 2830-2833 2982-2987 3024 3035 3039-3040 3095 3097 3116-3117 3159 3170 3181 3183 3212 3222 3233 3262-3264 3313 3322 3332- 3333 3491-3493 3520 3682 3732 3799 3815 3968 3978 3987 3997 4006 4114-4120 4135 4138-4142 4144-4146 4183-4185 4207 4209 4232 4237 4243 4249 4273 4287-4288 4373-4374 4380-4382 4422

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uterus	Clontech	UTR001	2 30 74-76 110 155 166 213 221 233 318-321 323-325 335-337 411-420 422 477 488 514-515 517 528-529 555-556 584-593 595-596 618-620 647-649 659-662 769 840 854-855 858 880-881 896-900 902 915-917 923-927 973-976 978 1018 1024-1028 1056-1061 1063 1072 1082-1083 1089 1096-1100 1111 1115 1122 1124-1125 1129 1131 1140 1166 1176 1183 1185-1190 1194 1202-1207 1284-1285 1303-1304 1355-1359 1361-1363 1395-1399 1423-1426 1476-1477 1505 1525 1611 1642-1643 1648-1652 1674 1676-1678 1690 1701-1702 1719-1725 1741-1745 1765-1767 1775-1777 1783-1789 1796-1797 1825-1826 1828-1831 1862-1863 1930 1992-1995 2010-2011 2013 2081-2083 2136 2153-2154 2177-2178 2180 2216 2218 2371-2372 2375 2381-2382 2428 2430-2432 2436 2438 2500-2502 2528 2539 2545 2556 2564-2565 2567 2572-2574 2585-2586 2588-2589 2682 2713 2774-2776 2781-2783 2785-2787 2795 2910-2914 3095 3226 3236-3237 3265 3328 3330 3347 3443 3485 3499-3501 3524-3525 3527-3529 3568-3571 3585-3586 3683 3758-3759 3761 3821-3822 3950 4024-4025 4147-4149 4172-4173 4176 4264 4287-4288 4298-4301 4303 4357 4368 4373-4374 4379 4392-4395 4424 4465 4473 4490 4575 4577-4579 4616-4617 4667 4673-4674 4747 4796-4797 4856-4860 4897 4978-4980 5078-5081 5099-5101 5138 5155 5204-5205 5207 5236-5238 5240 5376-5380 5401-5404 5406-5407 5418 5428-5430 5462-5463 5833-5834 5918-5919 6022 6025-6029 6055-6056 6058-6060 6069 6189 6245 6251-6252 6368-6369 6412 6545-6546 6675-6676 6732 6772 6983 7179-7180 7271 7326 7400-7405 7437-7438 7462-7465 7494 7504 7515 7526 7535 7546 7558 7569 7814 7829 7839 8034-8035

TABLE 2

SEQ ID NO: of nucleotide sequence	SEQ ID NO: of peptide sequence	Met h o d	SEQ ID NO: in USSN 09/577,408	Nucleotide location corresp. to first residue of peptide sequence	Location of first nucleotide of codon corresp. to last residue of peptide sequence	Amino acid sequence (X= Unknown; *=stop codon; /=possible nucleotide deletion; \=possible nucleotide insertion)
1	8052	A	1	2	424	
2	8053	A	10	67	373	FCDCHHFILMFKSPHIWPGIFSSWLLCF FWACLHHSLSIALLSCTKRYSGLILYFLC SSFEITVSSKSSVSF*RRMVFRNQVLGSR CACCC*GVAAPRPFP
3	8054	A	100	404	1072	ARACKIPNTASDRPIIVALQRKRSSPKMT QSAAGTCPTSCMIK/IDSHKCGDDRELFA QAPVDQFPGTAVESVTDSSRYFVIRIEDG NGRRAFIGIGFGDRGDAFDNFVALQDHF KWVKQQCEFAKQAQNPDPQPKLDLGF KEGQTIKLNIANMKKKEGAAGNPRVRP ASTGGLSLLPPPPGGKTSTLIPPPGE/PVG CGGIPRPASSCSQFRSTSSQTQPTGTW
4	8055	A	1000	2	333	ACPFNKSAEDLLNL/RQGLTAGQLPFLP WWNIVLDS/SLTIPATSFSTSLATARAR SASEVPIWKITLFCSLSQVRKTTSSGAT KSTVLSTSLTLLH*ILRSISSQ
5	8056	A	1001	292	945	
6	8057	A	1002	46	493	
7	8058	A	1003	2	406	
8	8059	A	1004	192	548	
9	8060	A	1005	1	528	DNELLDYEDDEVETAAGGSMS/EAPAKK DVKGSYFSIHSSGFRDFLLKPELLRAIVD CGFEHPSEVQHECIPQAILGMDFLCQAK SGMGKTAVFVLATLQQLPVTGQVSVL VMCHTRELAFQTR*KTRPFWNVTVCPSG EDTRVGVKETLLPPPLTAPTPWLPSFASP PLLNPHF
10	8061	A	1006	807	1034	
11	8062	A	1007	136	1520	LFTPCFHLFCENPSRSPFPSSPAGPVM NDVDNEALLDYER*MRWETAAGGDGAE APAKKDVNGLLCLPSHSSGFRDFLLKPE LLRAIVD\CGFEHPSEVQHECIPQAILGN GMSCARAKSGSGERQAVFVLATLQGLE PVTGQGVCA*GCHTRELAFQISKEYER FSKYMPNVKVAVFFGGLSIKKDEEVLKK NCPHIVVGTPGRILALARNKSLNLKHIKH FILDECCKMLEQLDMRRDVQEIFRMTPH EKQVMMFSATLSKEIRPVCRKFMQDPM EIFVDDETCLTLHGLQYYVKLDNEKN RKLFDLLDVLEFNQVVIFKSVQRCIAL AQLLVEQNFPAAIAHRGMPQEERLSRYQ QFKDFQRRILVATNLFGRGMDIERVNIAF NYDMPEDSDTYLHRVARAGRFGTKGLA ITFVSDENDAKILNDVQDRFEVNISELPD EIDISSYIEQTR
12	8063	A	1008	92	191	
13	8064	A	1009	219	422	
14	8065	A	101	2	477	IVSPEVRWAPGVAMEESGYESVLCVKPD VHVYRIPPRATNRGYRAAEWQLDQPSW SGRLRITAKGQMAYIKLEDRTSGELFAQ APVDQFPGTAVESVTDSSRYFVIRIEDG NGRRAFI*IGFGDRGDAFDNFVALQDHF KWVKQQCEFAKQAQNPDPQ
15	8066	A	1010	215	416	
16	8067	A	1011	261	486	GFLGKVLQSPATTVVRTLNDRSSIVMGE PISQSSNSQ*FFFKENSRLFCLG*CAVE QHFSIFHCVDYII

17	8068	A	1012	31	2697	
18	8069	A	1013	306	439	
19	8070	A	1014	149	404	
20	8071	A	1015	2	343	
21	8072	A	1016	172	341	
22	8073	A	1017	73	408	
23	8074	A	1018	53	237	
24	8075	A	1019	51	480	
25	8076	B	102	118	419	XLFCVDIDECSIMNGGCETFCINSEGSYE CSCQPGFALMPDQRSCTDIDECEDNPNIC DGGQCTNIPGEYRCLCYDGFMASEDMK TCVDVNECDLNPNICLX*
26	8077	A	1020	49	399	
27	8078	A	1021	564	651	
28	8079	A	1022	2	366	SLPASDRPPISSPLATSGTIFSAISCFWDLF APFLWLAPSCOPTMSSQIRQNYSTDVEA AVNSLVNLYLQASYTYLSLQDIKKPAED EWGKTPDAMKAAMALEKKLNQALLDL HALGSART
29	8080	A	1023	18	781	EICPSRPKNSARRGGPAGLSLASTVFGRN RSGDWASSLRPPSDFLLRLQPPGPSYRPS PASGTCQHRFLWLAPSCOPTMSSQIRQON YSTDVEAAVNSLVNLYLQASYTYLSLG FYFDRDDVALEGVSHFFRELAEEKREGY *RLMKMQNQRRGGRALFQDIKKPAEDEW GKTPDAMKAAMALEKKLNQALLDLHA LGSARTDPHLCDFLETHFLDEEVKLIKK MGDHLTNLHRLGGPEAGLGEYLFERLTL KHD
30	8081	A	1024	217	608	
31	8082	A	1025	147	430	
32	8083	A	1026	489	700	
33	8084	A	1027	899	1097	QPAGPSLTRCATAQALCTTLPPCCLVKQ DGSTIHIRYREPR/QQCWRMPIDLDTLSP EERRARLRKR
34	8085	A	1028	59	426	
35	8086	A	1029	1	2148	
36	8087	A	103	59	450	CLGVTVKDVNQQEFVRALAAFLKKSG KLKVPEWLADTVKLLAKHKELAPYDEN WFY/SREFVRNLASTARHLVLRGGRWG LAPLTKIYGGDVQRKRAFIAPAFSRGWSK SVARRVLQALAEGLKMVEKDQD
37	8088	A	1030	193	564	GDSGGSPWPDEKPKGVKTENNHDHNLK VAGQDGSVVQFKIKRHTPLSKLMKAY CEARQGLSMRQIRFRI*PGNPIHETDTPAP VGKWKDERYQLMVFFQARPGGVYLKK GTCFFYSKNSVSF
38	8089	A	1031	216	372	
39	8090	A	1032	566	787	
40	8091	A	1033	2	401	
41	8092	C	1034	379	453	
42	8093	A	1035	2465	2795	
43	8094	A	1036	1264	1385	
44	8095	A	1037	1249	1457	
45	8096	A	1038	146	438	
46	8097	A	1039	2	2387	
47	8098	A	104	583	1526	PHLILQVTKAMCPFESGRESFLVVSICIYF KPDSSASFSPDPYSVQC*PQLEPPPHCST SIYFPK/PTLPHIPFPPLTKHPKEDLELA GWTSSGCFYFSLPSTKLGENWSLHPQSH VYRSGDLVGSF*LLSQKLHRNPSICSL KGPPPREGLGNDPVSTNTAPYPRNLP*DL QRTIFSSPSIFYPGPPGAPSGES*NP*ELEG ILEVF*LCLCPT/VH*HQPLVFPFPPSGLF SSFPPQKILTHRLLVQASKPTPLPLRLC PLWSPSHYPSSIAPSSSI.EFGPGSPOKTL



						PLWSPSHYPSSLAPSSSLEFGPGSPQKTL E*PPLPKKQTD RHAPGE
48	8099	A	1040	1	1329	
49	8100	A	1044	3	581	
50	8101	A	1045	1	741	PLTRAAGIRHEDSQSVGNSSPEIPVLPEPA YQLGPLCQVLP RRAGSSCLPVMTRTVKL WDKSSRECVHSYCEHGGFVTYVDFHPS GTCIAAAGMDNTVKVWDVRTHRLLQH YQLHSAAVNGLSFHPSGNYLITASSDSTL KILDLMEGRLLYTLHG HQGPATTVAFSR TGEYFASGGSDEQVMVWKRNF DIGDHG EVTKVPRPPGTLASSMGNLTVSILEQRLT LTEDKLKQCLNQQLIMQRATP
51	8102	A	1046	526	1272	
52	8103	A	1047	57	307	
53	8104	A	1048	1669	1820	
54	8105	A	1049	212	547	
55	8106	A	105	1283	1648	SSGASVAPTSWTSNRFPF*SWVPSSF*RT HGPRPSGPPRERKPRAPGQEPKGT PRES VCLNDLPCPGLLGICRPILQTSP/CHGHH GILSVVNV LKGD KPSRSLGLPVFHNH HFRDLSVL
56	8107	A	1050	670	1296	
57	8108	A	1051	243	335	
58	8109	A	1052	1	1170	
59	8110	A	1053	1	1122	
60	8111	A	1054	1	392	
61	8112	A	1055	47	296	
62	8113	A	1056	1	315	
63	8114	A	1057	1	579	
64	8115	A	1058	87	507	
65	8116	A	1059	866	1002	
66	8117	C	106	263	304	MLKLSVRNRETFL*
67	8118	A	1060	385	573	
68	8119	A	1061	328	530	
69	8120	A	1062	6	664	LPGRPTRAPTRPAEHSIVGTRLVSCQLQP SQPNADQGKLT TMRIAVICFCLLGITCAI PVKQADSGSSEEKQLYNKY PDAVATWL NPDPSQKQNL LAPQTLPSKSNESHDMMD DMDEDDDDHVDSDSIDSNDSDDVDD TDDSHQSDSHHSDESDELVTDFPTDL PATEVFTPVVPTVDTYDGRGDSVVYGLR SKSKKFRRPDIQYDPATDEDITS
70	8121	A	1063	2	613	PRVRPRVREEAEHSIVGTRLVSGQLQPSQ PNADQGKLT TMRIAVICFCLLGITCAIPV KQADSGSSEEKQLYNKY PDAVATWLN DPSQKQNL LAPQNAVSSEETNDFKQETL PSKSNESHDMMDMDDEDDDDHVDSD DSIDSNDSDDVDDTDDSHQSDSHHSDE SDELVTDFPTDL PATEVFTPVVPTVDTY DGRGDSVG

71	8122	A	1064	1	1073	TDCRVDPRVRPRVRVEHSIVGTRLVSCQ LQPSQPNADQGKLTMTMRIA VICFLLGIT CAIPVKQAESGSSEKQLYNKYPDVA TWLNPDPQSQKQNLAPQITLPSKSNESH DHMDMDDEDDDDHVGTDARDSIGLG TTLDGCRMDTGWIFHQF*WSLHFWME SGWNWSLDFSPRDLAQATEVFQFQFVP TVDTYDGRGDSVVYGLRSKSKKFRRPDI QYPDATDEADITSHMESEELNGAYKAIP VGPDPAAPSDWDSRGKDSYETSQDDQ SAETHSHKQSRLYKRKANDESNEHSDVI DSQELSKVSREFHSHEFHSHEDMLVVD KSKEEDKHLKFRISHELDSASSEVN
72	8123	A	1065	1	1128	LETPIDSPRNRPNGNPGATHASGRRQSTAS SGPDSVSGQLQPSQPNADQGKLTMTMRIA VICFLLGITCAIPVKQADSGSSEKQLY NKYPDAVATWLKP*PIFRRQNLGPTW LCPLKETNDFKQGGPFPS*GPTERPWT WDDMG*WKVDGWTMWDSDSIDSN SDDVDDTDSSHQSDSHSDEDELVT GFSTDLPADEVFTPVVPTVDTYDGRGDS VVYGLRSKSKKFRRPDIQYPDATDEHITS HMESEELNGAYKAIPVAQDLNAPSDWD SRGKDSYETSQDDQSAETHSHKQSRL YKRKANDESNEHSDVIDSQELSKVSREF HSHEFHSHEDMLVVDPKSKEEDKHLKF RISHELDSASSEVN
73	8124	A	1066	514	1000	
74	8125	A	1067	1	1098	
75	8126	A	1068	2388	2658	FYKVTFMWKSKVKSLGDNFVLGSSVPC FLFFFFFLRWSLALLPRLECSGAISACI LCLPGSSNS/PASASQVVGITGTCHHAWL IFLYF
76	8127	A	1069	788	1000	
77	8128	A	107	426	1519	AWRRRRSGTSGKATWWCSGLRRASPTP SRRVQSWATAVMWKPSPPSSPASWE/PA LPREPHRAVSEQRQ*GR*PCKPELTAPLC LEPVHRPEGPMGT/YSRCCLSPHLP/PGP VGTFPV/SPEPVHRPQDPWHIPGVPEPVH RPQDPWHIPGVPEPVHRPQDPWHIPGV EPVHRPQDPWHIPGVPEPVHAPTGPVAL ASVGASSRDGLLPAHAAACTLHETAGQ TRTSRLSPS*GLGLPFCRRSRQPWTPAL GHSKTSGEWRGGARPGCGC*CCMLSPT QQPLPGGHPQARASPRAGEG*TSRAYL AVHAAATLWKLPLPEDPPLLDARISAH RPLCPSGRHRKVSLFLTSLFSISCEARKIG
78	8129	A	1070	306	1195	
79	8130	A	1071	3	715	FVAHTKGVRGLPSMRRSPDCGRMELAA GSFSEEQFWEACAELOQPALAGADWQL LVETSGISYRLLDKKTGLYEYKVFVLE DCSPTLLADIYMDSDYRKQWDQYVKEL YEQECNGETVVYWEVKYFPMSNRDY VYLRQRRDLDMEGRKIHVILARSTSMQ LGERSGVIRVKYKQSLAIESDGKKGSK VFMYYFDNPGGQIPSWLINWAAKNGVP NFLKDMARACQNYLKKT
80	8131	A	1072	1	1128	
81	8132	A	1073	3	862	
82	8133	A	1074	1	912	MTDNILELAQNMDKYTKYEMTTTILSQ PSSSQREQDQGQFQELTVTSEMFRKGK SFCSPHPEKFLRTFNEIETYLIGNFODLE LESSDDLPRGCTNEKARKTYDPKKLPLP YT/VRPCWILASKLHI*ESYG*RQ*A**CH Q*TPWPRPVVWSLHTEAHEIWCRRSDQ GTSLGRSIPCPVLC*ERSTYDLRPQTD QPSKHLTNLKSASTPPYPNPFITSPHTRS GLQFRSTSSPPAPAQQFTLKKVAEAKGIV KVNAPFSI.SDI.SOISVRI.GSFIKYEKSSPV

						KVNAPFSLSDLSQISVRLGSGFIKYEKSSPV HGSFGSNPETLYSPRP
83	8134	A	1075	611	817	
84	8135	B	1076	1	1500	MRTREVSITGADFTALLVDIIGNSTSYLT EIFKSTSILSVNQSNESDCIFICVMTGKSG RNLSDFWIEEEKYPIINYFTSGLSGVLAL LLTQSLFGGLFTRTRMKFGAVTRIGGPPL GNQSPSSCSLLHEKDPPTSGPQTDQPKK HLTNFKSGTEEAMNTSLLAPAAEIMAT PGSPSQASPTSGAFTHGTQTPSPTKATAP RYPQTGAQSRPRRFRPPAGAAPKAAA PRHPHPRGTAPPPRRISPESIRPHPPPLDR GPRPPVTPFLIVLGCLILAVLTTFKEYETV SGDWLLETTFAIFIFGAEFALRIWAAGC CCRYKGWRGRLKFARKPLCMLDIFVLIA SVPVAVGNQGNVLATSLRSLRFLQILR MLRMDRRGGTWKLLGSAICAHSKELITA WYIGFLTILSSFLVYLVEKDVPEVDAQG EEMKEEFETYADALWWGLITLATIGYGD KTPKTWEGRLIAATFSLIGVSFFALPAGIL GSQLALK*
85	8136	A	1077	606	1065	LVARTERLSVSQGFPLPWCTGRIRSHVGL ENECKVLLSGSSSQKMGKPEGRWFSPGV GPPPCLAAPALLRLPWKSPPHPTGGWPA SVPVPVGVLCQRAPLDDQLVCWPAR VLEKRYWQPPLS*LCPCSAHNMNGYGS GAYVWVLTELTVDFAGFWA
86	8137	A	1078	1	822	MWNAVTLWQQRESCIEESEIGTLETKE THFIRGPKTLAPVTDWEGSLPLVFNQCR DASLIHPRFKGFRPRDACLGPSPLAASP AFLGKGQAAPRQAEFGPNSSASAPPPY NPFITSPPHTWGLQFHSMTSPPPPAQQF PLKKVAGAKGIVKRLKTDARLPWKPP DHHRRRASGNHSGRVQPP/CPAAFVGS C*VSQAFPGARCKLSVDLPFWDLEDARV FMCVRVKRPPNRLCVSNMAVYFTWVQL LQAIWAYTCKSQGMRWLGLGSEA
87	8138	A	1079	38	639	MTLIKSPIVIWTIRSRLKWSQMEMRNLL GTGAKRQRRHVLSVDPKLRWSRTGKA AFPWCLIIAGRPALVLHP*QQVLLSWGR GKI*LTSPSRCTHIEKSCNSWPPL*DKPQP HLQHTRTSKRLNRSGQAFLLQNLQPQELA TSTRN/PDHQAKECLQPRIPPKPCPICAGP HWKLD CSTHLAATPRAPGTLAQGS LTDS FSA
88	8139	A	108	1	537	RRCCCRHTRSPCLALLLEIVSLFSFAVPQ SPDSSPLVFTYFARTHDPDPSLLPLPAQL WQRTMWTMKLLDYER*MRWETAAGG DGAEAPAKKDVKGSYVS/LSHSSGFLDF LLLL*VLPSIVHCAFEHSTHFRHECISQAI LGKDALFPALLDIFLTGVFFLTIFSPVLRV LLRCLFCLS
89	8140	A	1080	1	1611	

90	8141	A	1081	17	1173	MADSRIKRTWMRMKFGAVTRIGGTSLG RSIPCPALCSVKKIHLRPRVLRPTSPRNI SPILN/TARFKRIKACYSPATAWPFKAY KLPLQFPHT/WS*NQTRLTA*FS*KHTCS P*LSSPANLPNPNPFYKTTTFLPRHG**G QILTQELGPRPIAFLSKQLDLTVLTQPS LHAAAAAALILLKALKITKYAQLTYSS HNFQNLFSSSYLMHILSAPWLLQLYSLF VESPTITIVPGTDFNPASHIILDITPDPHD CISLIHLTFTFPFRISFFVPHPNHIWFIDG SSTRPKCHSPAKAGYAIVSSTSIIEATALP PSTTSQQAELVALTQALTLAKGLCVNIY TDSKYAFHIVHHHARSFLTQKQSSINPS LIKTLNAA
91	8142	A	1082	324	548	SFYHLPSSHVVLLTVSFRD*PSPTCPAIYS *KGGWSQRHSQGACYKCKQSGHWAKE CPQPRIPPKLRPICVGP
92	8143	A	1083	760	1260	HTDGVLVWMSFLVFSFNSQDPQLQLC WSLLEVHSRSLPGYQQWRLSWKCRNH SSSASLTLRAVDWSCSYSAILEPRWYCL LYFIQSIILKKHRGRRWIFLMEQRTGGQR IDLPRGGPPI*VTAPNLMHVRVKRPPNRL CVSNKAVYFTSKSGPLSQDVVTVVIH
93	8144	A	1084	908	1192	
94	8145	A	1085	1	420	
95	8146	A	1086	287	515	LFTHVSKELOTSARNLTTRPTAGSPGFL LSHVPSVWDPTANRTVQLTWQPLPEPLE VSGPRLSD*LLPRSSRLSG
96	8147	A	1087	1	5127	
97	8148	A	1088	3	721	
98	8149	A	1089	144	408	
99	8150	A	109	1	457	AGGGCSPKGRPEAKSGQORDWELVAGGP PGISRREGTCCSRFPSRLSQPFRSAQQLQ LAASLPANLSNFCQGSEMPITSRPALDV KGGTSPAKEDARPEKSTLGQ/YSTLLVID NQVSSKTR*PDESANQYYASDTFIILSRT YNRYILVHLSK
100	8151	A	1090	265	769	RQKRHVLSVDPKLRRWSRTGKAAPWC LIIAGRPALVLP*QQVLLSWGRGKI*LT SPSRCTIIEKSCNSWPL*DKPQPHLQHTR TSKRLNRSQGAFQNLQELATSTRN/P DHQAKECLQPRIPPKPCICAGPHWKLD CSTHLAATPRAPGTLAQGSLLTDSFSA
101	8152	A	1091	69	634	KQKRSTYNLRSSDPPAQETSHQFQIRDK GDTFYLTQNSGAAHGLGRQSLDV*S LQGHLSDYSPMFPRCQTMQGRLP*SFTL SGKSRFSGEGASTPQPLLHP*WQVPLFW GRGKYPSTPSSPLVASPAFLGKGQKPPRP SRMPSTFG
102	8153	A	1092	1	655	MGATHPFELLTKMTSQGSDISGDLPWEI NPLSSCSLLHEKDPPTSGPQTDQPKKHL TNFKSETKETHFIRGPKTPVLVTDWEGR LPLVFNHSRDASLIHPRFRGVRPRRDAC LGPSPLAASPAFLEEGQVPQPLLSMSLTP SLLFWRRGKKPSTPSSPLAASPAFLEEGQ VPQPHIS/GA/LDPLFLHPNLL*LCTPTFPF LFWKTVRKYSSNNQKGE
103	8154	A	1093	756	878	LSQWRSDNGPAFISQITQAVSQAPGIQ*N LYIPYHPQSSGK
104	8155	A	1094	781	1194	FPGGGPPI*VIAPNFMVRVRKPPNRLCV SNKAVYFTWVQVGALCRLGA/PAPCIPA APVP/VHGESEPRYNSSRCLAEKPA*ALA ASMWYLSLKALGIESGRVSTAILINISSA RKA/SCVPLGSRILESLMLSTVRALR
105	8156	A	1095	400	686	RQVLLFWGRGKYPSTPSPSPLAASPTFLG QGQELVTSARNLTTRPRNACGPGLLSH VPSVRDPTGNRTVQLTWQPLPEPLESGP

						RLSD*LLLRL
106	8157	A	1096	1	883	MASSAQLLGSSQETYNHSKRQRGGEMS HMAGARRKRERGEMLHTFKQPDLMRW SSVCRKNKEKVGNSRKRRNVRYCFSRK FNGTSKVFESWQVVVVGEINSHVAHTKP VRWSLHTDAHEIWCRDSRRTSLGRSIP CPPVLCMRKIHLQAQVLRPTSPRNISPIL NRRKRRHVLSVDPKLRHRSWTREGSLPL VFNLCRDASLIHPGFRGVRPRRDTCLGP SPLAASPTFLGEGARACYKCQKSGHQAK ECLQPRIPPKLCPIWRDPAGNRTVQLTW QPLPKPLELWPKVL
107	8158	A	1097	2	551	CGKVWNFLETFSMALTKMLIMIWTMKF RLRSSQMEMRNLLGTGISLETWCPAS*P L*P*LKGDKIQLRPWLQVRVQGSIGSFQE VLGPWVLRNQELRFGNLCYFAGCMEK PVCPRGSLQGGGF/PWYVPAVVGAK VHDVNLHMLSFPKSKWLHTCMKFGAVT WIRGPPLGDQSPVLLLFAP
108	8159	A	1098	1436	1699	
109	8160	A	1099	1099	1250	LVYLKVTGRMEPSWKTLCRILSRRTSPI* QGRPTFRFRKYREHHKDTPRD
110	8161	A	11	366	795	AWVEQSKVLIKEGGIQLLLTIVDTPGFGD AVDNSNCWQPVVIKYFDSKSQDIYLNES QVNRCOMPGNRVHCCLYFIAPSGHGPL HN*RLPPSGRIG*YMFVTTWHCLLLRLK PLDIEFTKHLHEKVNIPLIAKADTLMPEE C
111	8162	A	110	232	376	FPTTKSLG*DSFTSEFCQTFKAELIPILS/R LFQKLEQYVTLPPFYEA
112	8163	A	1100	303	1413	VRRQRSDRERSDARMVRFCNLYM*RKN PFILH*LFR*TLRQTKPDSSA/V*MCQNL MTHSKSTEWKITK/QIFDGDGKTYQNVQ QFIDEGNYTSGDNHTLRDPHYVEDKGH KYLVEANTGTENGYSQSAHLHPGEINS HVAHTKPVWWSLHMDAHEIWCRDSR GTSLGRSIPRPPALCSVRKIHLQPQVLRPT SPRNISPISNPGFCFRNHHQTGFSPAGA NQRGPLAATLSGPGGEGQSAVARLTGE KKNHPGAQYANRLSPRVGRFINAAGTT GFPTGKRAVSATQLMDFADFGTTTKQD FRLLGQTSVDRLLQLSQGQAVKGNQLLP VSLVKRKTTLAPNTQTASPRALADSLMQ LARQVSRLESQ
113	8164	A	1101	846	1825	
114	8165	A	1102	2141	2384	AEQWPSVKILRQELATSARNLATRPRNA RSPGFLLSVPSVWDPTGNQTVQLTWQP LPEPLESGPRLSD*PLPRCSRLSS
115	8166	A	1103	305	1148	
116	8167	A	1104	2779	3182	DKTQPHLLHTGTSKCLNCSGQAFLOQLL LQELATSARNLATRPGNSCSPGFLLSHPV SVPDPTGNRTVQLTWQPLPEPLELWPKV LSRVMDYI*MVY*STIPQNSAIVLTDLLL GVYIPSESKHARPKVVLWAH
117	8168	A	1105	2286	4921	
118	8169	A	1106	1	761	
119	8170	A	1107	1	969	

120	8171	B	1108	1	2175	MVNPDTGYINYDQLEENARLFHPKLIH GTSCYSRNLEYARLRKIADENGAYLMA DMAHISGLVAAGVVPSPFEHCHVTTTT HKTLRGCRAGMIFYRKGGMAPLGTATL LQALFSLFLSKSRDVPGTGADPGVMYV KRRPRGTDSCGCVLEPRRFLPSGMAFTK EEEEEEEPYNPALPEEYSVPLFPFASQG ANPWSKLSGAKFSRDFILISEFSEQVGPQ PLLTIPNDTKVFGTFDLNYSRLRMSVDY QASFVGHPGSAYPKLNVEDSKVVLGD SKEGAFAYVHHLTYDLEARGFVRPFC MAYISADQHKIMQQFQELSAEFSRASEC LKTGNRKAFAGELEKKLKDLDYTRTVL HTETEIQKKANDKGFYSSQAIEKANELA SVEKSIIEHQDLLKQIRSYPHRKLKGHDL CPGEMEHQDQASQASTSNPDESADTD LYTCRPAYTPKLIKAKSTKCFDKLKLTL EELCDTEYFTQTLAQLSHIEHMFRGDLC YLLTSQIDRALLKQQHITNLFEDFVEVD DRMVEKQESIPSKPSQDRPPSSSLEECPI KVLISVGSYKSSVESVLKMEQELGDEEY KEVEVTELSFFDQENLDYLDMDMKGSI SSGESIEGLGTEKSTSVLSKSDSQASLTVP LSPQVVRSKAALLQPHNPTRHRSSTM EYKPDPPHRFSEPWPNEANLSSPAVK DSVTKELOQTARPSREQ*
121	8172	A	1109	2	964	DIPLVMVNPDTGYINYDQLEENARLFHP KLIHAGTSCYSRNLEYARLRKVIADENGA YLMADMAHISGLVAAGVVPSPFEHCHV TTTTTHKTLRGCRAGMIFYRKGVKISVG SPRLGKEILYNLESLNSAVFPGLQGPH NHANAGVAVALKQAMTLEFKVYQHQV VANCRALEALTELGYKIVTGGSDNHLI LVDLRSGKTDGGRAEKVLEACSIACNKN TCPGDRSALRPSGLRLGTPALTSRGLEK DFQKVAHFIHRGIELTLQIQSDTGVRATL KEFKERLAGDKYQAAVQALREEVESFA SLFPLPGLPDF
122	8173	A	111	515	909	LPLFIMNMTVELVWPDTSNLPRNSEILS SPTRPNQLFVCLFLGSPSLRLEYK WYSQ SSL*PQNPGLK*SSPSASYVAKTIDMCH HAWLIFLFLQTEGLNYIAQVG/VQTPGF KQSSCLTLKPC*DYRHEPP
123	8174	A	1110	172	375	
124	8175	B	1111	827	1276	MATAAWSSSLEKSYELPDGQVITIGNER FRCPETLFPQPSFIGMESAGIHETTYNSIMK CDIDIRKDLANNVLSGGTTMYPGIADR MQKEITALAPSTMKIKIAPPKYSVWI GGSILASLSTFQQMWISKQEYDEAGPSIV HRKCF*
125	8176	A	1112	144	261	
126	8177	C	1113	122	253	MGWVGTATSPHPVAWRTRRPSSLSRLPS VRALVVRTERRVPCG*
127	8178	A	1114	50	368	RQAILTAAPRRAAAARA VRSRHGGARA LSPGMEQRRRRRTTWSLLQPRRRRWA ARRPRGRRARQVARRTARRICPCGRPPV RAPAADPWARRAWSTSRSPAGTE
128	8179	A	1115	336	689	
129	8180	A	1116	164	370	
130	8181	A	1117	974	1111	
131	8182	A	1118	179	404	FSSSIGSLRRQRRGMKTPFGKAAAGQRS RTGAGHGSVSVTMIKRKAHKKHRSRP P/SQPRGNIVGCIIQHGWKDG
132	8183	A	1119	1	1698	
133	8184	A	112	40	351	LKIPMQFLHSGFWFSFFVFFGF*KFGFGP QGGROGGWNTKGEKLPPGSSSLPGPNP QENREKKGPPKTLKFGNLSSSGKTRG

						PRGEKNSDPKGTGPGQNPNGN
134	8185	A	1120	264	799	
135	8186	A	1121	231	351	
136	8187	A	1122	1	3654	
137	8188	A	1123	1376	3462	TKPKTKTLLSQ*MQKKPLTKFNPNPSC* KLSIN/IVLEVLARAIQKKEIKGIQLGKE EVKLSLFADDMIVYLENPIVSAQNLLKLI SNFSKVSGYKINVQKSQAFLYTKNRQTE SQIMSELPFTIASKRIKYLGIQLTRDVKDL FKENYKPLLKEIKEDTNKWKNI PCSWVG RINIVKMAILPKVIYRFNAIPIKLPMTFFT ELEKTTLKFIWNQKRARIASILSQKNKV GGITLPDFKLYYKATVTKTAWYWYQNR VIDQWNRKEPSEITPHTYNYLIFDKPEKN KQWGKDSL FNKWCWENWLAICRKLKL DPFLTPYTKINSRWIKDLNVRPKTIKLE ENLGITIQDIGMGKDFMSKTPKAMATKA KIDKWDLIKLSFCTAKETTIRVNRQPTT WEKIFTYSSDKGLISRIYNELKQIYKKK TNNPIKKWVKDMNRHFSKEDIYA AKKH MKKCSSLAIREMQIKTTMRYYLTPVRM AIKKSGNNRQTGSGVDLQTPD LKLR DLTVRRKM NKQKEIASTSTKRTSTPNPT CRSVGPKDCSSLGAMEQSWTENDFDKL TEKKALEENQEEMDKFLDTYTLPRLNQE EVESLNRPI TGSEIEAIDS IPTKKY PGPDG FTAKFYERIKVFCTESLAKWIKWHTKT FIMEFHTIGNAKILQASSFTEVKT KTKTL EHRLESIMALTSQ
138	8189	A	1124	485	2347	TEPKTKTT*LSQ*MQKRPLTKFNNTSC*K LSIN/IVLEVLARAIQKEIKGIQLGKEE VKVSLFADDMIVYLENPTVSAQNLLKLI GNFSKVSGYKINVQKSQAFLYTNNRQTE RQIMSELPFTIASKRIKYLGIQLTRDVKDL FKENNKPLLKEVKEDTNEWKNIPCSWV GRINIVKMAILPKVIYRFNAIPIKLPMTFF TELEKTTLKFIWNQKRACIAKSIFSQKNK AGGITLPDFKLYYKATVTKTAWYWYQNR RDIAQWNRTEPSEIMLHIYNYLIFDKPEK NKQWGKDSL FNKWCWENWLAICRKVK LDPFLTPYTKMNSRWIKDLNVRPKTIKT LEENLGITIQDIGVGKDFMSKTPKAMAT KAKIDKWDLIKLSFCTAKETTIRVNRQPT TTWEKIFATYSSDKGLISRIYNELKQIYK KKTNNPIKKWAKDVNRHFSKEDIYAAK KHMKKCSSLAIREMQIKTTMRYH LTPV RMAIKKSGNNRRIQ/GGIWCDRIL*R*TT CRVAKEIQLS*RR I/WKRLQRTL SIPVLDA V*PPMF*ASVIDTMTI*CFEARDTCFTLTL ESFWD MHRCLAASKGIGLLC*PLIWHM SLMGVKSPPFVFSCLWTS AVRPTT
139	8190	A	1125	1	2784	
140	8191	A	1126	1	3000	
141	8192	A	1127	1	3045	
142	8193	A	1128	1	2736	MIISIDAEKAFGKVQQPFMLQTLNKL GID GSYLKJIIRAVYDKPTANITLNGQKLEAFP LKTGTRRGCP LSPLLFNIVLEVLARAIQ EKEIKGIQLGKEEVKLSLFADDMIVYLEN PIVSAQNLLKLISNFSKVSGYKINVQKSQ AFLYTNNRQTESQIMSELPFTIASKRIKY LGIHLTRDMKDLFKENYKPLLNEIKEDT NKWKNI PCSWVGRINIVKMAILP RFNAI PIKLPMTFFTELEKTTLNFIWN/Q
143	8194	A	1129	1	2955	

144	8195	A	113	307	1429	CTATQSGWLC LHRPCPAWRCTWRRTTWFCIRYK GEMVKVSRNYFSKLWLLRYSCI DDSAFERFLPRVWCLLRRYQMMFGVGL LTRGTGLQGFAACMSLRPSTDSLASVS ECFASPLNCYFRQYCSAFPDTDGYFGSR GPCLDFAPLSGSFANPPFCEELHGCHGL SL*ETA*ELTGAPVPSSVFIPEWAGNPQH QRSPA WKQ/MPLQTPPVDPA CL*A*VPQ WLP AHLQEGGNALQGRPOHG CALPTE/P TLALPSGRRRLTGCRS*VLPTGSPGP/PAT ALVLP HRSYLG GPRTGIRGREQGP KPR SPHLTYSCGEEGAPGVLSDDLGLGPLGP QRDPGCH*HMKIMVLPGLSLPVPKSSP QTPSKSHVYRS
145	8196	B	1130	1	3105	MGKKQNRKTGNSKEQSTSPPKCESSSP AREQSWTENDFDELREEGFRRSNYSELW EDIQTKGKEVENFEKNLEECITRITNTKK CLKELMELKTKARELREECRNLR SRC DQ LEERQINETESQQGYPGIELSSAPSGPNT HLQNSPPQINRIYIFSAPHHTYSKTDHILG SKALLSKCKRTEIITNYLSDHSAIKLELRI KNLTQSRSTTWKLNLLNDY WVHNE MKA EIKMFFETNENKDTTYQNLWDAFK
146	8197	A	1131	1	2826	MEYYAAIKNDEFMSFAGTWMKLGTHILS KLPQGGQTKHHMFSLTAPHHTYSKIDHII GSKALLSKCKRTEIITNYLSDHSAIKLELR IKKLTQNRSTTWKLTNLLNDY WVHNE MKA EIKMFFETYENKDTTYQNLWDAFK AVCRGKFIALNAHKRKQKRSKIDILTSQ KELEKQE QTHSKANRRQEITKIRAE LKEI ETQKTQKINESRSWFFERINKIDRPLAR LIKKKREKNQIDA KNDKGDITTDPTD
147	8198	A	1132	1709	2973	TEPKTKTT*LSQ*MQKRPLIKFSNASC*K LSIN/IVLDV LARAI RQEKEIKGIELGKEE VKLSLFADD MIVYLENPIVSAQNLLKLIS NFNKVS GYKINVQKSQAF LHTNNRQTES QITSELPFTIASKRRKYLGIQLTRDMKDL FKDNYKPLLNEIKEDTNKWK NIPCSWVG RINIMKMAILPKATVTETA WYWYQNRDI DQWNRTEPSEIMPRIYHYLIFEKPDKNK QWGKDSL FNKWCWENWLAICRKLKLD PFLTPYTKINSRWIKDLNVRPKTIKLEE NLGNTIQDIGMGKDFMSKTPKAMATKA KIDKWDLIQLKS FCTAKETTIRVNRQPIE WEKIFANYSSDKGLISRIYNELKQVYKK KTNNPIKKWAKDMNRHFSKEDIYAAANR HMKKCSRSLAIREMQIQT TMYHLTPV
148	8199	A	1133	1	2856	
149	8200	B	1134	1	3786	MVKGSIQQEELTILNIYAPNTGAPRFIKQ VLSDLQRDLDSHTLMGDFNNPLSTLDR SMRQKVNKDTQELNSALHQVDLIDIYRT LHHKSTEYRFFSAPHHTYSKIDHILGSKA LLSKCKRTEIITNYLSGHSAIKLELKIKNL TQNRSTTWKLNLLNDYWIHNEMKAE IKMFFETNENKDTTYQNLWDAFKAVCR GKFIALNAHKRKQERSKIDTLTSQLEKE KQE QTHSKAGRKK EITKIRAQLKEIETQ
150	8201	A	1135	1	3276	
151	8202	A	1136	1	3042	
152	8203	A	1137	1	3663	
153	8204	A	1138	1	3144	



154	8205	B	1139	1	3380	MVKGSIQQEELTILNIYAPNTGAPRFIKQ VLSDLQRDLDSHTLIMGDFNNPLSTLDR SMRQKVNKDTQELNSALHQVDLIDIYRT LHHKSTEYRFFSAPHHTYSKIDHILGSKA LLSKCKRTEIITNYLSGHSIAKLELKIKNL TQNRSTTWKLNLLNDYWIHNEMKAE IKMFFETNENKDTTYQNLWDAFKAVCR GKFIALNAHKRKQERSKIDTLTSQLEKE KQEQTHSKASRRINKIDRPLARLIKKKR
155	8206	A	114	161	218	
156	8207	A	1140	1	3345	
157	8208	A	1141	1	3429	
158	8209	A	1142	1	3030	
159	8210	A	1143	1	4170	MNSLEQNPRSKWELLHRGTMELWPTM WADEEEQGLKAVLALSACKFVPGARSK TGLTDCMGVGGGLLPAPPHIPGKRDSH NPLWNITPENQSPPTVAMERSSSPATEQ SWMENDFDELREEGFRRSNYSELQEEIK TKGKEVKNFEKNLDECITRITNTEKCLKE VMQLKAKARELREECRLSRWNLQLEE RVSMEDMNEMKREGKFREKRIKRNE QSLQEIWDYVKRPNLRLIGVPESDGENA TRLENT
160	8211	A	1144	1	3921	
161	8212	A	1145	1	2884	MVKGSIQQEELTILNIHAPNTGAPRFIKQ VLSDLQRDLDSHTLIMGDFNTPSTLDRS MRQKVNKDTQELNSALHQADLIDIYRTL HPKSTEYTFPSLPHHTYSKIDHIVGSKAL LSKCKRTQIITNYLSDHSAKLELRIKTLT QSRSTTWKLNLLNDYVWHNEMKAEI KMFFETNENKDTTYQNLWDAFKAVCRG KFIALNAHKRKQERSKIDTLTSQLEKEK QEQTHSKASRRQEITKIRAEKETETQ
162	8213	A	1146	1454	3917	
163	8214	A	1147	11537	15574	
164	8215	A	1148	115	450	
165	8216	A	1149	278	885	
166	8217	A	115	116	565	EPTGTASRAATMPNFSGNWKIIRSENQFE LLKVLGVNVMRLKIAVAAASKPAVEIK QEGDTFYIKTSTTVRTTINFKVGEEFEE QTV DGRPCKSLVKWESENKMCQKLL KGEGPKTSWTRELTNDGELILTMTADDV VCTRVYVRE
167	8218	A	1150	2	378	
168	8219	A	1151	172	464	ASHRVGLLQPFNLWPSGCSTVLAKMK SVLVATEGAEVLFYWTDQEFEESSLRLKF GQSENEEEVGLLML*AR*PHPTPPVLS GLNEGKKKSNFIT
169	8220	A	1152	164	528	
170	8221	A	1153	1	1122	
171	8222	A	1154	1	558	
172	8223	A	1155	1	495	
173	8224	A	1156	51	579	LRSSSPATEQSWTENDFDKLREEGFR*SN YSELQEEIQTKGKEVENFEKNLEECITRIT NTEKCLKDLMELKAKARELHEECRLRS RCDQLEERVSMEDMNEMKREGKFRE KRIKRNEQSLQEIWDYVKRPNLHLIGVPE SDGENGTKLNTLQDIIQENFPNARQA NIQIQ
174	8225	A	1157	286	456	FCHLSSTSWGGADGTCREGGPLGGFMG PSHQ*ESSVPPEAASSFRITFKSSAVSQSPL

175	8226	A	1158	1	1758	MDDIPQEARQYRHNQAYAYSIIQGDGAE DDDERIVRFHTRVTVDSDTLASDAARLT CRHGLGNQDRSSSPAMEQSWTENDFDE LTEVGFRRSVITNFSELKEDVRTHRKE HSAIKLELRIKKLIQNLTTTWKLNLLLN DYRVNNEMKAEIKMFFETNENKDTTYQ NLCDTFKAVCRGKFIALNAHKRQERSK IDTLTSQLELEKQEQTHSKACRRQEITK IQAELKEIETQKTLQKINESRSWFFEKINK IDRPLARLIKKKREKNQIDAINDKGYIT TNPTEIQTIREYYKHL YANKLENLEEM DKFLDTYTLPRLNQEEVESLNRPTGFEIE AIINSLPTEKRPVDPGFTAKFYHSSADCT RSMAPAPASGEALRLLPLMGEGEGETC RDHIAREEAQECSSSPATEQSWMENDFE ELGEEGFRRSVITNFSELKEDVQTHFKEA KNLEKRLDEWLTRINSVEKTLNDLM*LK TVA*ELRDTYTSFNSRFDQVEERVSVIED QMNEEMEREKFRKRV*RNEQS/LQEIW NYVKRPNLHLIGVSEIDRENGTKLENTL QDIFQENFTYLARQANIQIQ
176	8227	A	1159	138	324	
177	8228	A	116	343	528	
178	8229	A	1160	1	525	
179	8230	A	1161	319	1035	EWSSVRRSLVEKRALRRPHQPCLCFRMK TILASNQTCRPFPEAVDITLKGRTVIVKGP /REGTLRRDFNHINVELSLLWKEKKRGF RVDKWWGNRKELATGRD*FVSHVQN MIKGCYT GASGYKMKVLWYAHFPIQRL LFQGELGPSLLKSRNFLGGWKNTSRRVS G*GPGCLLVSVSQGPRKDEINPLKGNDI ELVSKFQRALIQVATTVKNGKURKFFG WVMSMLEKGTVPGLIE
180	8231	A	1162	232	338	
181	8232	A	1163	474	647	
182	8233	A	1164	1	413	
183	8234	A	1165	2	2545	
184	8235	A	1166	1364	1618	SQHSGRPRQADHLRSGVRDQPGQHGEIL SLLKIQKLAGRAGSRL*SQLLERLRYHR TPA*VTE*DMASKNKKKPHRIQARKYF
185	8236	A	1167	3	342	LTQELPGAEAHACNPSTLGGQGGQIMRS GARDQPGQHSGTPSLLKIQKLAGRGGT HL*SQLLRRLRQENRLNLGSGGCSELRL RHCTPAWVTDSVSKKNELEKESYLIFSSL T
186	8237	A	1168	2	232	WAGRGGSRL*SQHFGRPRRADHERWKN TWELRQLNLGQAPCSRNGMRRYGERRH HPDEPGQPSVEGFLRVLSMCIC
187	8238	A	1169	1294	1624	GQLYEKLGRRGPGAVAHAACNPSTLGG GGWITRSGDRDHPG*HGETPSLLKIQKK LAGRGGGHL*SQLLRRLRQENGVPNGA/ RGCSELRSCYCTPAWGTERDSVSKKKK K
188	8239	A	117	296	629	FKLTSSRNPPTGPGAVAHAACNPQHFR PRQVDHLRSGV*DQPGQHGETPSLLKIQ KLAGHGGVHL*S*LLRRLRQENRLNLG GGCSEPRSHCTPAWTTG*DSASKKKK
189	8240	A	1170	427	730	
190	8241	A	1171	6497	6788	SQRFRPGQANCLSSGV*DQPGQYGETL SLLKIQKLGCGGTCL*S*LLGWLRQEN HLNLGDGCGCSEPRMCHCTPPWTEGGS A*KLKKKKKKRKYL
191	8242	A	1172	173	395	
192	8243	A	1173	239	404	

193	8244	A	1174	126	915	SACVSCNPAALLLALRSAGPPSFLPPHPA RGSAGCVTLSHPTHQPAQHHGWTVKL EVPSPLOCKEDAEWWTYPMRREMQUEI LPGULFLGPYSSAMKKQDPSLLAVSSHG QENEFLLPLTRVQSCHGGFYPHDLNLKLI IFQRLHHHILGLPVLQKHGITHIICIRQIE ANFIKPNFQQLFSAFVIAIYIMETFGMKY RDAFAYVQERRFCINPNAGFVHQLQEYE AIYLAKLTIQMMSP/LRDRKVIICSFWYH RQFEENT
194	8245	A	1175	1	924	
195	8246	A	1176	441	707	
196	8247	A	1177	109	437	NQRRKWRRSRTQLQTLQEALKAIEIGH QKLAAQMKQDPQADL*KQLYELQAKI TALSEKQKRVVEQLRKNLIVKQEQPDKF QIQPLQSDNKLRTAQQQPLQQLQQQQ
197	8248	A	1178	343	670	
198	8249	C	1179	130	390	MAEQSLISGGPKPKSVNSLRWINLXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXSWVDK*
199	8250	A	118	74	396	GQILALMPKGGGGGGILTYPNPPLPG*N NFPGLTPRTGINGLGPGRVNFIFKKK GGFPPGARGV*NPGPRGASSPGPKGRG *SPPP/QGPFKPLKRFPDLPIFFR
200	8251	A	1180	238	435	
201	8252	A	1181	615	945	
202	8253	A	1182	232	564	
203	8254	A	1183	3	487	LPNMAQSINITELNLPQLEMLKNQLDQE VEFLSTIAQLKVVTQKYVEAKDCLNVL NKSNEGKELLVPTDGVLCMSPGKLHDV EHLIDVGTGYVVKTAEDAKDFFKR KIDFLTKQMEKIQPALQEKHAMKQAV MEMMSVQKIQQLTALGEAQATAKA
204	8255	A	1184	187	423	
205	8256	A	1185	539	871	
206	8257	A	1186	158	1330	SVDLVIHPLWPPEVLGLQQQPTQFINPET PGYVGANLPNQVHRKSVKKGFEFTLM VVGESGLGKS/TLS*NSLFLTDLYPERVIP GAAV*FFSRKN*KELVQIEASTVEILRAR GSSLRLASG*DTPGYG*PLFNCRCDF*G QFISYYLMRQF*GGYLHDESGLNRRHHI DNRVHCCFHFISPFHGLQPLDVAFMK AIHNKVNIVPVIAKADTLTKERERLKKR ILDEIEHNIKIYHLPDAESDEDEDFKEQT RLKASIPFSVVGSNQIEAKGKVRGRL YPWGVVEVENPEHNDFLKRLTMLITHM QDLQEVTDLHYENFRSERLKRGRKV ENEDMNKDQILLEKEAELRRMQEMIAR MQAQMOMQMQGGDGDGGALGHHV
207	8258	A	1187	405	632	
208	8259	A	1188	111	375	
209	8260	A	1189	428	574	
210	8261	A	119	454	777	ADPMSPSSKSPNMEAVLWIPDTNIVL*SL KVYPSS*TIKSWLGT/CGSRL*COHFRP RRVDHEVKRLRPS*PTWRTPSLL/RTTKIS RAWWHTSVVPATRAEAGESLE
211	8262	C	1190	216	458	MNRDRTSRNRCVCDVFRNAVKGQTVLG RQLFIGRVVPVRPGEGLPWGFLPVSP WCPSWGLSTHALWWAEAVPGRALVH*

212	8263	A	1191	1	594	RTRGRTRGLLPSGAPEEAAGSATAPRG CKNPGAKGGLLAAMAGRQDIFHAIVKA DERFHGEGYREGYEKGSILGVKEGRQHG TLHGAKIGTEIGRYQRFAPAWKCLLHIA PLRRTA*T*RS*HAWIGRIQIFPYDDPTYD KLHEDLDKIRGKFKQVRALCVSSC*EHLI APFPGGAHRSRGRGNGLGLRAPRNC
213	8264	A	1192	482	788	
214	8265	A	1193	572	676	
215	8266	A	1194	1	394	KGGSMHMYAKNFYGGNGIVGAQQQIFE AYNMAALWKLPCIFICENNRYGMGTSV ERAAPSTDYYKRGDFIPGLRVDGMDILC VREATRFAAAYCRSGKGPILMELQTYR YHGHSMSDPGVSYRTREEIQE
216	8267	A	1195	641	722	
217	8268	A	1196	354	1145	KQISCINRKLFFVSVTCVMVRKLAVWA WRPASTPQTISSQPTGLTALLSPGAFPSE KFSQSLQDEKEVVLLKGKEDRCTCMPRTS TGAMASWERRCPWAAGIALACKYNGK DEVCLTLYGDGAANQQQIFEAYNMAAL WKLPCIFICENNRYGMGTSVERAAASTD YYKRGDFIPGLRVDGMDILCVREATYI GRAYCRSGKGPILMELQTYRYHGHSMS DPGVSYRTREEIQEVRSKSDPIMLLKDR MVNSNLASVEELKGI
218	8269	A	1197	2	506	
219	8270	A	1198	1	1455	
220	8271	A	1199	509	839	
221	8272	A	12	105	702	AGSSVSLGFCPAAAAHKPRGGALRLPVF RRRAQQGPDYALAGVARQPACTCRRRC NRSHCRAEDPQWPTPAAAPAAHSPHMS LGESGLGKLILINSLFLDLYSPEYGPSPQ RIKKPVQVYILVFLIDDKLE*Y*YTQSTC CNFHYASQSWQPAINYIDSKFEDYLNAE SRVNRQMPGNRVQGCIFYIAPSGHGPL HN
222	8273	A	120	133	359	RHCSSGMEJPPTNYPASRADLVAQNYIN YQHGTPHRVFEVHNAYRVIMQDMSG* GHLVSPSSRFFLHSFATSLFE
223	8274	B	1200	109	267	MEETPCRELEEEEEWGSSEDASKKDGA VESISVPDMVDKNLTCPEEEDTVKV*
224	8275	A	1201	856	1030	VPNLQVGDEKQDSPNGEHWHGQEDST AEPAEVKAMMSVAVV*KNLTPPPLLG RSSV
225	8276	A	1202	67	264	
226	8277	A	1203	3	1251	
227	8278	A	1204	1403	3362	
228	8279	A	1205	388	1711	ACALGMAPQRKRRKQLSMKTGSYSQRS SFQRRKRPPQGGRSRNSAPSGATLSLGA LAWHLEWLSVIQLWHYLFITLNSLLTN MAGGDMARVSTYTNAFATQFGVLSAP WNGLLMDRLKQKYQKEARKTGSFNIRG PHSLYFPNHHLPHATYRDKAKMKLPLLL ALLFGAVSALHLRSETSTFETPLGAKTL PEDEETPEQEMEETPCRELGGRGREWG LWEVEDASQERWGLFESILQCPDMGGT KTFTCS*GKEGHQLKVGWGPGGCPRPA RYLPG*ESLSRRFSSKLWFFARSCYRG QTWVFHSTTFQY*LSESKCSVSALMQG QVWIG\GRI\TGSGR\CRRFQWVDGSRW\ NFAYWGAHQ\WSRGGHC\VALC\TRG\ GYWARAH\CLQKNFPFICFPLSWSQPAV QVVSPGQLPPLLCLPSLPPPCNNNGFY
229	8280	A	1206	97	441	
230	8281	A	1207	19	432	
231	8282	A	1208	165	257	

232	8283	A	1209	80	1239	GAVVGGGRRRRRRITYKCLPKLDPKPK FQEGERVLCFHGPLYEAKCVKVAIKDK QVKYFIHYRGWNKNWDEWVPESVLK YVDTNLQKQRELQKANQEQAEGKMR GAAPGKKTSGLQKNVEVTKKNKQK TPAGNGDGGSTSETPQPPRKKRARDP TVENEETFMNRVEVKVKEELKPWL DDWDALITRIQKQLFYLPKKNVDSILED YANYKKS/RVGNTDNKEYA/VLNEVVAG D*KNTFNVMLGTQLLYKFERPQYAEIL ADHPDAPMSPGVWSAQHLLHIIWYRIGA MLAYTPLDEKSLALLNLYLHDFLKyla KNSATLFSADYEIVAPPEYHRKAVWKS TLTHLCLDLRKHIFVLSLSPWYKPMCFE DVSV
233	8284	A	121	3	1671	SSGARWRFRAGSMGLFCQRKHSS/SHPV LQKPSVFGNDSDDDDETSVSSESLQREAA KKQAMKQTKLEIQKALAEDATVVEYDSI YDEMOKKKEENNPKLLGKDRPKYIH NLLKAVEIRKKEQEKRMEKKIQREME KGEFDDKEAFVTSAYKKKLQERAEER EKRAAALEACLDVTKQKDLSGFYRHLL NQAVGEEVVKCSFREARSGIKEEKS FSNEVSSKKQNTTREMHSFKLM*K*REN PDADSYFADAKSSPDDK*KKLELTAEGK RS*RPLRMTSSTTGVTTLGHLVKKEGT VPGTTRKDHERREDMRKGKISTSRNPE TKRTITLTVITGKKGILIGTERPVIEPIGR GMNRKINQGRGTKEKEVTEYGKGRKIG RNIPKENKKEIDNKMIRTDPRKERRKR KAKQRKRAYESKGGKVLKLLINTEIEKN ER*VFS/ASERNQDQKQKPKFQGRINF LTNLDFIQNGETWQRTKERNQEKPSNSE SSLGAKHRLTEEGQEKGEQERPEAVS KFAKRNEETVMSARDRYLARQMASG
234	8285	A	1210	31	1029	WWNSEVPHGPFMRKAAVLT/APVLFSD G*ARRRHFWQGG*SPRAAWDRVAKDL ATRVPTVLKEQRTETYSQFEGRLGE NS*TLKLLDNWDSVDLPFSKLRHSF GPC*PRDFLGINLGKRETRGALRQGR QRIFGRRLKGPRLQP*LGDDFPRKKLAR KEIGALTRQKGWSRLRARTSKKGARPE LHELARRSLSPLGEAVSRPRARMWDAL RTHLAPYSDEMSQLGARLGALRENG GARMGQYHAIQATEHLSTLSEKAKPAL EDLRQGLLPVLESFVSFLSALEEYTKK LNTQLRRPPPPYPVLRINVSXVGGKKK KK
235	8286	A	1211	3	450	QTQREPTMVLSPADKTNVKAAGKVG AHAGEYGAEALERMFSLFPTTKTYFPHF DLSHGSAQVKGHGKVVADALNAVAH VDDMPNALSALSDLHAHKLVRDPVNFK LLSHCLLVTLAAHLPAEFTPAVHASLDK FLASVSTVLTSKYR
236	8287	A	1212	9	675	NSARATDSERTHHGARLLPDKTNVKA WGKVGGAHAGEYGAEALERMFSLFPTTK TYFPHFDLASHGSAQG*RAHGKVVADA LTNAVAHVVDMPQTALSALSGPATAH KLARVDPVQLSSS*SHLPCWWTLGRPTSP SEFNWRLHAFPGTKFPGLLEAPLLEPS KLPLKGLSLRVGHAFAPLGLPRALLPF PGTRNPVGLLNKILNWGGKKKKKKKIF
237	8288	A	1213	1	645	KIFLSDCLACDSCMTAEKGVQLSQNAK DFRVLN/LNKKCDTSKHKVLVSVCPQ SLPYFAAKFNLSVTDASRRLCGLKSLG VHYVEDTTIAADFS/H/RWRMLKWQPS PDSRRTCG*GPAAADGRHLR*HPCAASG VQCKRAGAVPGVAGGDQLPQGRGAA YHVPEPGAWHTQPGHQVVKSGQGLPAA LGARAKSISVEGGAALSGVILTKTKT

						LGARAKSLSVEGGAALSGVLKTLKKT
238	8289	A	1214	193	564	
239	8290	A	1215	211	1795	TPLGRRRRRKTHDKRKPGQGPMPGAEC SKKTKVADDQENVADAPSPAQENGEGK EFHKLADAKIFLSDCLACDSCMTAEEGV QLSQNAKDFFRVLNLNKKCDTSKHKV LVVSVCPSLPYFCWLNFNLSVTDASRR LCGFLKSLGVHYVFDTTIAADFSILAESQ KEFVRRYRQHSEGGNAPCPMLTSACPG L/WVRYAGAGCWGRPITG/HTFLAPPKSP QQVMGSLVKDYFARQQNLASPEKIFPRS LVAPICVYDKKLAEALQKGPFPLALHGSR GRLTCVLTSGEICFKLMEQGDLSVRDA AVDTLFGDLKKDKVTRHDGASSNGHLA HIFRHAARKELFN/ERDVEEVTYRTLNRQ RFPQKVTLEEEKRWV*TFVLEPYAFRNI PET*SLKPLKKGKVPFHFVEGSSPCAIG GCLNGKRPKPKIQDGHGDKAPAAGRM EGY/SLDIPVRRPESAHVQELVQEWL EGINSPKARKVLHTTYQSQERGTSLG HSSWLKFRPGPSSCSWGQSQEPLSRGRG LP
240	8291	A	122	170	339	IMKLITILFL*CRLLSLTQESQSAEIDLLD NDLFLAEEAIGLYRYIMQIQTNPRI
241	8292	A	1222	1	456	RPRRPQREPTMVLSPADKTNVKAAWGK VGAHAGEYGAEALERMFLSFPTTKTYF PHFDLSHGSSQVKGHGKKVADALTNV GHVDDMPNALSALSDLHAHKLRLVDPVN FKLLSHCLLVTLAAHLPAEFTPAVHAFL DKFLASVSTVLTSKYR
242	8293	A	1223	2	435	QTQREPTMVLSPADKTNVKAAWGKVG AH/AGEYGAEALERMFLSFPTTKTYFPHF DLSHGSAQVKGHGKKVADALTNV/VEH VDDMPNALSALSDLHAHKLRLVDPVNFQ APKATGLLVDPGPAHFPRVSPRLRQGF LGTKFLGFC
243	8294	A	1224	9	390	NSARATDSERTHHGARLLPDKTNVKA WGKVGGAHAGEYGAEALERMFLSFPTTK TYFPHFDLSHGSAQVKGPTAKKVAER ADQTPWRNVDDMPKRRCP*SDLHAH KLRLVDPVQLSS*SHLPCW
244	8295	A	1225	3	452	
245	8296	A	1226	26	636	NSTDSERTHHGARLLPDKTNVKA KVGGAHAGEYGAEALERMFLSFPTTKTY FPHFDLSHGSAQVKGHGKKVADALT NAVAVDDMPNALSALSDLHAHKLRL VGPGSTFKLLKPLALLG*TLGRPPSPAEF QPLGGCKASLGTKFLGFLVEAPLLEPSKL PLKLSLRLAMLSLPLWAFPPAPPLSCT RTPVVFEIKS
246	8297	A	1227	17	233	AFGTRELQCCVFLASMLGVPIPTVQGF QWTLRGTDVETSPFGAPRATSHGVGQM KSCQIPQLKIRMVQNNIIPGETQILLRF TGWESKVNKKQPPVGIKCEPMDQNE QTGGHETDGHRISSVVSAATQECLI*N TIRNVWTQ*TKSNLTRCGPNEELPDPTA LEDKDGQTK
247	8298	A	1228	1	433	
248	8299	C	1229	312	443	MHKRNFRHAGRSQAVQDNWKELNNIYP VSPARLQALLPPAAPC*

249	8300	A	123	23	307	RQTRWCPVVRLSHYRTLGGCCHLRGR GVA*VRGPQSGTSSVENTPPWRRVSCFP APNITCKDSSGNETHFTGNEVGFFKPISC RNVNGYSYK
250	8301	A	1230	1	94	
251	8302	A	1231	2	122	DLLCPQMG*GWKLTALSQCQLQDGIER SRAKASQCCLSI
252	8303	A	1232	3	53	
253	8304	A	1233	1	2679	SAVGSDHIFHNIPDSTSSATNVSMVVSAG PWSSEKAEMNILEINEKLRPQLAENKQQ FRNLKERCFLTQLAGFLANRQKKYKYE CKDLIKFMLRNERQFKEEKLAELKQAE ELRQYKVLVHSQERELTQLREKLREGD ASRSLNEHLQALLTPDEPKSQGQDLQE QLAEGCRLAQQLVQKLSPENDEDEDED VQVEEDEKVLESSAPREVQKAESKVPE DSLEECAITCSNSHGPCDSNQPHKNITF EEDKVNSTVVDRKSSHDECQDALNILP VPGPTSSATNVSMVVSAGPLSSEKAEMN ILEINEKLRPQLAEKKQQFRSLKEKCFVT QLAGFLAKQQNKYKYECKDLIKSMLR NELQFKEEKLAELKQAEELRQYKVLV HSQERELTQLREKLREGDASRSLNEHL QALLTPDEPKSQGQDLQEQLAEGCRLA QHLVQKLSPENDEDEDEDVQVEEDEKV LESSSPREMOKAESKVPEDSLEECAITC SNSHGPCDSNQPHKNITFEEDKVNSSL VVDRESSHDECQDALNILPVPGPTSSATN VSMVVSAGPLSSEKAEMNILEINEKLRP QLAEKKQQFRSLKEKCFVTQVACFLAK QQNKYKYECKDLIKSMLRNELOFKEEK LAELKQAEELRQYKVLVHSQERELTQL REKLREGDASRSLNEHLQALLTPDEPD KSQGQDLQEQLAEGCRLAQHLVQKLS ENDNDDDEDVQVEVAEKVQKSSSPREM QKAEKEVPEDSLEECAITCSNSHGPYDS NQPHRKTITFEEDKV DSTLIGSSSHVEW EDAVHIIPENESDDEEEEEKGPVSPRNLQ ESEEEVPQESWDEGYSTLSIPPERHRW DQVKKEDQEATGPRLSRELLA
254	8305	B	1234	33	2996	MLRNERQFKEEKLAELKQAEELRQYK VLVHAQERELTQLREKLREGDASRSLN EHLQALLTPDEPKSQGQDLQEQLAEGC RLAQHLVQKLSPENDNDDDEDVQVEVA EKVQKSSAPREMOKAEKEVPEDSLEEC AITCSNSHGPYDSNQPHRKTITFEEDKV DSTLIGSSSHVEWEDAVHIIPENESDDEE EEEKGPVSPRNLQESEEEVPQESWDEG YSTLSIPPEMLASYKSYSSTFHSLEEQQV CM
255	8306	B	1235	16	1041	MVKQNNIIPGETQILVRFTGWESKVNK KQPPVGKCEPMDQYEECKDLIKSMLR NERQFKEEKLAELKQAEELSMVVSAGP WSSEKAEMNILEINEKLRPQLAENKQQF GNLKERCFVTQLAGFLANQQKKYNYEE CKDLIKFMLRNERQFKEEKLAELKQAE ELRQYKVLVHSQERELTQLREKLREGD ASRSLNEHLQALLTLDEPKSQGQDLQE QLAEGCRLAQHLVQKLSPENDEDEDED VQVEEAEKVQKSSAPREVQKTEESKVPE DSLEECAITCSNSHGPCDSNQPHKNITF EEDVNSTLVVDRESSHDECQDALNILP ACMTE*

256	8307	A	1236	1	2219	MSQSVQDNLKELNNIYPDHSSSPAMEQS RMENDFDELTEVGFRKLVTNFSCLKED VRTHRKEAKNLEKRLDEWPTRMNSVEK TLNDLMELKTMARELRDACTSFSSQFDQ VQETPLKIRMVVKQNNIISAESQILVRFTS WESNVNAKKQLPVGIKCEPMDQECIPGS RACTLLVRFSNGGPPMDPGSERKDLLQL GGELARTSRAVQEAGLGLSTGLWLAESR AKAALEKQALLQAQLEEQLRDCKDLAQ QQMQSDLDKADLSARVTELGLAVKRLQ KQNPEKDQVNTDLTEKLEALVQMLPLES QLPIPTSGTLTPPGYSLVWSPLCVGPGLG SRSGSPIDCVTWGKTDSTMQAHEDAQR EVQRLRSAKELLRRLSGMLMEVEEPEVL QDSLDRCYSTPSMYFELPDSFQHYRSVF YSFEEQHISFALDVE/E*VSYFDGNKSPP GLPDGSHIPTRTAGQARLLHARRRIPQ ERTTTPKVSQLASWVSLG/RQYLHPAGS LRWL*TTLPPTSSSMFPLCPQ/YPSEDSRE AGIKKDQEEEEEDQGPPCPRLSRELLEAVE PEVLQDSLDRCYSTPSSCLEQPDSCLPYG SSFYALEEKHVGFSLDVGGYLELTDSCQ PYRSAFYILEQQRVGWALDMDIEKYQE VEEDQDPSCPRLSRELLDEKEPEVLQDSL DRCYSTPSGYLELPDLGQPYSAVYSLE EQLGLALDVE/E*VPYDEDETEAQRSE DTGAGSHSW
257	8308	A	1237	3	1270	
258	8309	C	1238	160	267	MGPLTLSSSLHTETFLCPILTQGHQSCQ CENRRL*
259	8310	A	1239	1	1233	
260	8311	C	124	35	91	MSPPQNKGPFPKSPGWF**
261	8312	A	1240	401	2582	
262	8313	A	1241	946	2562	FPLAYSLLFPP/CSRLSRELLEVVEPEVLQ DSLDRCYSTPSSCLEQPDSCQPYGSSFYA LEEKHVGFSLDVGEIEKKGKGKRRGR STKKRRRRGRKEGEEDQNPPCPRLSREL LDEKGPEVLQDSLDRCYSTPSGYLELTD SCQPYRSAFYILEQQRVGWALDMDIEK YQVEEDQDPSCPR*L*AITDA*FCVDTW RCQVQKQECVQFHVFNEG*ITPTDIAV GFHCSRCLGFHFFLPLSFTHLL*VDHTSK AVWQLHGILSKFMENY*AHSFHDHCSLC VPRALTQSVL*PLHQCVRPIR*AHFLLS LSLPLPVFLFHSFLPGPGLSQHKGNNSLP H*WICPFSF*TVPYVSHEI*LGLCGF*FPL AYSLLFPT/CSRLSRELLDEKEPEVLQDSL DRCYSTPSGYLELPDLGQPYSSAVYSLEE QYLGLALDVDRIKKDQEEEEEDQGPPCPR LSRELLEVVEPEVLQDSLDRCYSTPSSCL EQPDSCQPYGSSFYALEEKHVGFSLDVG EIEKKGKGKRRGRRSKKKKKGRP
263	8314	A	1242	442	5178	HQELPDPTGPCGRLLSLTIHGVITIRYHA LLWARGPIMSKSQVLGEWEPVQGGKSS ENDKWTMSDPGAEAPTCSRAASGV DKE QQGRWQGLWNSHIKPLKIRMVVKQNNIIP GETQILLRFTGWESKVNKKQLPVGIKC EPMQDQENEQTGGHETDGHRIVSVLHFP LISILSYATWGLSLLEICIPGSPVCTLLVRF SNVGTRWSLEVRGSPCGFGSNKVCVGM TPEIKMVCVCEGKAGKAVGSGGVEGTK EVST



264	8315	A	1243	1	3242	MDKPRPGKTTFVIMVSPLPAPYTSPTTH MVTCPAHPRAFLALTHSWDPQVRPAVL NPLPRHGSSFFVVKQPVAKQQLRCLIIYE VALSVMSPTAPSSSRSPWKRPLRPGFE QPGGSREAERLVGSRDGSSRLHSLHPV REPVPSSLRIRGAAELPLSSDPAFGTG APPGQGSWQYKVLVHAQERELTQLREK LREGRDASRLNEHLQALLTPDEPKSQ GQDLQEQLAEGCRLAQHLVQKLSPEND NDDD
265	8316	A	1244	148	197	DPLGFL*QKRNNQEDD
266	8317	A	1245	1333	2383	RMKKEHVLHCQFSAWYPFRGVTIKSVI LPLPQNVKDYLLDDGTLVVSGRDDPPTH SQPDSDEAEIQQWSDDENTATLTAFEF P*SLPLKVQGSYQIPLGGQVSFPK*VFGS APRD\AYWIAMNSSLKCKTSLDIFLLFKS SDFITRDFTQPFHCTDDSPDPCIEYELVL EKWCEMIPGGEFRCFVKENKLIGISQD YTQYYDHISKQKAEIRRCIQDFFK\KHIP VQIL*MKDLVFDIYRDSRGKVWLIDFN PFGEVTDSSLFTWEELISENNFKRRFLV KVDAQEODSPFSVAQTSEVTVQPQLIC SYRL\PKDFVDLSTGEDAHKLIDFLKLLK RNQPEGR
267	8318	A	1248	66	703	RRRRLPSVAIMIILPGPSSSHDEMFSDIY KVRGDRGRGLCLEGGGRWVSRTEGTI D\DSLIGG\NAISAESPRGAKGTERHK*ST GV\DIVMNHHLPGNKFSQKEASKKVHQR ITMKS\KGP*KNRRPRKSKTFL*QGAA EQIKHILANFKKLQF/YFIGENMNPRWA WVLLLDY*RDGVPP\YMIFFKIDGLEME KMLTNVAIILDLSPCHP
268	8319	A	1249	1	521	MKNRSRNKGNVEWQAEGIRSKRSVGKQ RPSKAKIPSGDKNGVSLTHNEVINNDNP LESNDEKEGQEATCSRPIVP/EFQQ**LF RPE*WRRASGNLQIPKRVSA*GTRGSP SKKGERVRRDAQQTATW*TRSPASGCF QICEGNKQDEACDVRGLQHCERHSLAG PREYMP
269	8320	A	125	50	230	NLKGPLRRPVSGIIHVISLPLYQKCSKNE KKIPWRQMEM/C*NVPSANNPPLGLLKN IVF
270	8321	A	1250	3	168	
271	8322	A	1251	3	249	
272	8323	A	1252	23	2669	
273	8324	A	1253	97	1609	GGKMAGGGGDLSTRRLNECISPVANEM NHLPAHSHDLQRMFTEDQGVDDRLLYD IVFKHFQR/NKVEISNAIKKTFPFLEGLRD RDLITNKMFEQSQDSCRNLVPVQVRVY NVLSELEKTFNLPVLEALFSDVNMQEYP DFKFHIYKGFENVINHDKLPSPRKVEEEE KGRRLGLPTKSLNKGTEGNSFRKPDFG PPSGFPHPPCLGTTPE/NMGLSEHPCETE QINAKRKDTTSDKDDSLGSQQTNEQCAQ KAEPTECEQIAVQVNMGDAGREMPCP LPCDEVESPRGKSLHNHWNPKFNSLVLC ELVDIKKEKPFNSKVECCQAQARTHNN QASDIIVISSEDSGSTDVDEPLEVFISAPR SEPVINNDNPLAESNDEKEGQEATCSRPI IVPEPLIFRKLFT\FRESFRKRVIG/QKTHD FSESQ*GGGAPQEASSGGTEARHGEKA PIDF*EVHLTWEEYPSRKETFPVSDFS PE*MGERAFOETCSSSLRRGLG
274	8325	A	1254	3	274	FFASLLESPVSPRLAMDPNCSCAAGVSC TCAGSCKCKECKCTCKKSECEAISMVW GCG*GCCSCCP/AAASKCAQGCVCCKGAS EKCSCCD
275	8326	A	1255	788	1173	

276	8327	A	1256	80	231	IRPLPPRFKTESRSLPGPCLQPGTFLWSRN RRVLGFPSMNGEDMGLFLCSEWERSSE GWLCTEKGEVDTQLNPTAVPSCISLTAH CVFLFLVGGSCCTCAGSCKCKEACKCTSC KKSECG/CH/PPGIWCGG*GAWFSQHEW RGHGASLPLL
277	8328	C	1257	81	476	
278	8329	A	1258	3	452	
279	8330	A	1259	9	486	NSARATDSERTHHGACLLPDKTNVKAIA WGKVGAGHAGEYGAEALERMFLSFPTTK/ TYFPHFDLSHGSAQG*RAHGK/KVADA LTKRRGATWDDM/PQTALSALSDLHAH KL/RVGPSTFKLL/SQPLCLGEPWAAHL PAEFQPLAVARLPWNKVSWGFC
280	8331	A	126	814	1292	GISPFYIFGQDMGLEKNPTSFPKMCFC PLESLPSYVGCWKTGNMSCVVCTVNW LRSVIYFVIFTNLSHFEVLALKRLLAPG GGGNMPPRVL*ACRRITGHQRVWPSRP PEQTDQTAARRPPSWRPTL/CSPLPLPPPR SGREKGNRARFLKGPRIG
281	8332	A	1260	3	497	PTLLVPTDSERTHPWLLSPADK/TNVKA/ AWGKVGAGHAGEYGAEALERMFLSFPTT KTYFPHFDLSHGSAQV*GPRARKVADA L/TNAVAQRGT/DIAQRACPLSDLHAHK L/RVGPSTFKLLKATC/HCLGEPWAAHL PAEFQPLAVARLPWGQSLGFLGKQRC
282	8333	A	1261	1	1077	MLSGVGGFVLGLLFLGAGLFIYFRNQKA EESFVSALSIDLSGGGMALLSMVCLKF PGGSCMAALT/VTLMVLSSPLALAGDTR /PPVRLRKTEDEPLGCVLSGLRVGPDSVF PGGRFCNRIVLVPPARFLEQVKHECHFF NGTERVRFDRYFYHQEEYVRFSDV EYRAVTELGRPDAEYWNSQKDLLEQKR AAVDTYCRHNYGVGESFTVQRRVYPEV TVYPAKTQPLQHHNLLVCSVNGFYPGSI EVRWFRNGQEEKTGVVSTGLIQNGDWT FQTLVMLETVPRSGEVYTCQVEHPSLTS PLTVEWRARSESAQSKMLSGVGGFVLGL LLFLGAGLFIYFRNQKGHSGLOPTGFLS
283	8334	A	1262	3	825	LFSSMVCLKLPGGSSLAALT/VTLMVLSS RLAFAGDTRPRFLELRKSECHFFNGTER VRYLDRYFHNQEEFLRFDSDVGEYRAV TELGRPVAESWNSQKDLLEQKRAAVDN YCRHNYGVGESFTVQRRVHPQVTVYPA KTQPLQHHNLLVCSVSGFYPGSIEVRWF RNGQEEKAGVVSTGLIHNGDWTFTL VMLETVPRISEEVYTCQVEAPRA*QAPL TVEWRARSESAQSKMLSGVGGFVLGLL FLGAGLFIYFRNQKGHSGLOPTGFLS
284	8335	A	1263	11	885	DLPASLAPGPVLFSSMVCLKLPGGSCMT ALT/VTLMVLSSPLALAGDTRPFLWQP KRECHFFNGTERVRFDRYFYNQESVR FDSDVGEYRAVTELGRPDAEYWNSQKD FLEDRRAAVDTCRHNNGVGVGESFTVQR RVQPKVTVPYPSKTQPLQHHNLL/VFCV SGFYPGSIEVRWFLNGQEEKAGMVSTG/ LIQNEGDGPFQTLVMLETSFFGVERVNT/ SQVEHPKCARPLTVE*RARSESAQSKML SEVGGFVLGALLPLPGFLFIYFRNQKG HSGLOPTGFPELKCR
285	8336	A	1264	25	628	EFHRLRENPPWCLSPADKTNVK/APAWG KVGAGHAGEYGSEALERMVLPPTPKP YFPHFDLSHGSAQV*GPRARKVADALA TNAVAQRGT/DIAQRAVPPLSDLHAHKLA RVGPSTFKLLKATC/HCLGEPWAAHLPA AEFQPLAVATSSLGTFKFGFLVEAPLLTF QITFKGWKLWLAIVFLPFGLPSPSPFL HPYPRGL

286	8337	A	1265	1	625	CKFIRVMAHTRLRLPLRRKKAHLMEIQ VNEGTVAEKLDWARERLEQQVPVNVQVF GQDEMIDVIGVTKGKGKGYKGVTSRWHTK KLPRKTHRGLRKVACKDGLIKNNAST DYDLSDKSINPLGGFVHYGEVTNDFVML KGCVVGTKKRVLTLRKSLLVQTKRRAL EKIDLKFIDTTSKFGHGRFQTMEEKKAF MGPLKKDRIAKEEGA
287	8338	A	1266	1	1251	
288	8339	A	1267	1	903	
289	8340	A	1268	1	1131	
290	8341	A	1269	1	1345	WALPAGFDGVMSHRKFSAPRHGSLGFL PRKRSSRHGKVKSPKDDPSKPVHLTA FLGYKAGMTHIVREVDRPGSKVNKKEV VEAVTIVETPPMVFGVGVYVETPRGLRT FKTVFAEHMSDECKRRFYKNWHKSKKK AFTKYCKKWQDEDDGKKQLEKDFSSMK KYCQVIRVIAHTQMRLLPLRQKKAHLM EIQVWAGGTCARESWDWGPREGKQQV PVKPSVLGRDEMIELHRG*PKGQKAYK GGHPVVWHTQESCPRKD/HHPRACAKV ACIGAFHPARVAFSVARAGQKGYHPR TEINKKIYKIGQG\YLIKGGKLIKNNAST DYDLSDKSINPLGGFVHYGEVTNDFVML LKGCVVGTKKRVLTLRKSLLVQTKAA GLWRRITLKFIDTTSKFGHGRFQTMEEK KAFMGPLKKDRIAKEERSLMPGTDFAV GGVSIKVIFH
291	8342	A	127	191	482	DSSGQVQWLKPIIPVLGNLRQADHLRSG VQDQHVQHGETPSLLKIQKKLARHGGA CL*SQLLGRLR/QETH*NSGSRGCSEPL RHCTLA*ATEGDSI
292	8343	A	1270	3	451	
293	8344	A	1271	9	487	NSARATDSERTHHGARLLPDKTNVKA WGKVGAHAGEYGAEALERMFLSFPTNK TYFPFDLASHGFCPRLKGPQRWRPDA LTKIAVAHVVDGHAQTALSGPEATLHGA QSFQVDPVQLSSSLSHCLL*PWAHL RPSSTPGGWNAPFGTKFPWVSC
294	8345	A	1272	197	821	RLFHSNQTVDSQKNVDITLKGWRPSNR VRAPKGTLRIRDFNPHQM*NSALLGKEQ QRGFRVDKWWGYQKGNWPTRSGLFGS HVQDMIKGWLPLGLPVTKMRSVYAHF PHPTLLSRENGVSLKSRNFLGEKYIPQ GFRMKTRVLLCQYLKAQR*N*SLEGN DVGLVSNFSRLIPASPTRLKTKGIRKFL DGIFCLEKGLFRQA
295	8346	C	1273	22	282	MSEGPSVRSEEAICLYYEELGGGARQTH VRRPLSECSPGDWSHSGVAEGPXCIQFL HITSHGAKEALSTWLGLLTSGPATTAAV LP*
296	8347	A	1274	60	1576	GYLGAPVALGLWALCWSLAIAATPLPPT SAHGNVAEGETKPDVTERCDGWSF DATTLADDNGTMLFFKGEFVWKSXWG PGV*SSERWEGFSPSPCGMLAFFKVHN SVLS*SKGGDKVLGY*PSLKKKGRKGLP KVCISKIDFPGIPHSPALDAAVECHRGEC QAEIGVLFQGDREWFWDFAITGNHGR ERSWPAVWGTCSALRWAGPLTYWLS RGNQFLRFRPCQGEVPPRIYPRDVREY FMPCPGKGHGTQEWGLGHGNSNHHGP *IYAACSPHLSLCLALTSNHNHGANFCLS VGTHYWRLDTS\RDGWHS LAPLLIKWP QGSAVDAAFSWEEKLYLVQGHPGYY VFLTKGGYVLS*GGYPKRLGEREV\GDP SWGFI\DSVDAAFICPGVFLRLHYSWA GRRLVVGW/VP*KSGSPKPTWTELSFGP HEKVDGALCMEKSPFGPKFMFPNGPG L\YLIHGPNTL\YSVVEKLNAAKALPQ

					PQNVQTSPGACTH
297	8348	A	1275	1	3431
					MLPHERGLETTTPRGECIPVRIDTKLFEML VPQCHKEIALEHKFIYSFLVTLNTPPGY SHSHPEALLDPEVGDPTNGTNAQLIKCFLL PLCPSFPLCPEECMHCSGENYDGKISK MSGLECOAWDSQSPHAHGYIPSKFPNKN LKKNYCRNPDRELRPWCFTDPNKRWE LCDIPRCTTPPPSSGPTYQCLKGTGENYR GNVAVTVSGHTCQHWSAQTPHTHNRTP ENFPCKNLDENYCRNPDGKRAPWCHTT NS
298	8349	A	1276	111	2785
					VNNVLGLGHTFWALLASPKMEHKEVVL LLLLFLKSGQGEPLDDYVNTQGASLFSV TKKQLGAGSIEECAAKCEEGETCRAF QYHSKEQQCVIMAENRKSSUIRMRDVV LFLKKKVYSLQSAKTGNGKNYRGTM KTKNGITCQKWASSTSPRRPRFSPATHPS EGLAENYCRNPDNDPQGPWCYTIDPE KRYDYCDILECEECMHCSGENYDGKI SKVTMSWDWECQGLGTFQEPHTVHG
299	8350	A	1277	29	454
300	8351	A	1278	1	1368
301	8352	A	1279	1	1269
					PPTRPPTRPAPGLVPKPSTTCTPACQGLS GAAMKSLVLLCLAQLWGCHSAPHGPG LIYRQPNCDDEPETEEAALVAIDYINQNL WGYKHTLNQIDAEVKVWPQQPSGRAVL RFEIRTPWGTTLPCCWDPTLVGQDASLE GSLKEHAVEGDCDFQLKLDGKFSVY AKCDSSQDSAEDVARKVCQHCPLLAPLA NDTRVVHAAKSCPPFNAQNNGFQFFS LEEISRAQLVPLPPSVTYVAFTVSGTDL FA*KKATEAAKCNLSGQKSNMGFCVAT LSEKLGSGQRLQLTCTVFQTPVTISQP NPEGANEAVPTPVVDPAAPPSPPLGAP GLLP SWLTPKTTMVLVAAPPQHQLHRA HYDLCHTFMGVVSULGSPFRRKCSHPRK NT/RTVVEA*WLGAAAGATGFLPLFRGG IRHFKV
302	8353	A	128	1445	1778
					NLSRNKEVLLFGKNIPWVGWARWLVPG NPNTLGGQGRADHLKLGVDQPGQHGE IPSLKIQKLTRHGGVCL*SQNHLNPGG GGCSELRSHHCTCTPAWAME*DSIPKN K
303	8354	A	1280	1	1254
304	8355	A	1281	1	921
305	8356	B	1282	70	572
					MGKEKTHINIVVIGHVDSGKSTTGHLIY KCGGIDKRTIEKFEKEAAEMGKGSFKYA WVLDKLKAERERGITIDISLWKFETSKY YVTIIDAPGHRDFIKNMILNHPGQISAGY APVLDCHTAHIACKFAELKEKIDRRSGK KLEDGPKFLKSGDAAIVDMVPGKPI*
306	8357	A	1283	1	1410
307	8358	A	1284	1	1386

308	8359	A	1285	70	1538	KPKWERKRLIFNIVVIGHVDSGKSTTTG HLIYKCGGIDKRTIEKFEKEAAEMGKDSF K\FAWVLDKKAERERGITIDISLWKFET SKYYVTIIDAPGHRDFIKNMAITGDISRL DCAVLDLFA\SGVGEF*SLVSPKNGQ\TR EHALLAYTLGVEQLIVGVNKMMDSTEPP YSQKRYEEMWLREVSTFIKKIWLQPPTQ *HFVPISWFGIGDNMLEPSA\NMPWFKG WKVTRKDGNASGTTLEALDCILPPTRP TDKPLRLPLQG\HKLGGIGTVSSAPME T\GFSNPGMVVTFAPSPR*QRKVKSCRKC THEALK*SSFLGTNVGLQLSGIVSCQGM FRPWQTVAG*PAKNDPTQWESSWASLV RGDYP*PIPGQNKAPGYAPCIGIGAHLT FACK\FAELKEK\IDRR\SGKKLEDGPK\FL KS\GDA\I\VDIVPGRPMCVESFSDYPPL GRFAVRDMRQTVAVGV\KA\VDKKVCW SWARSPKFAQKG
309	8360	A	1286	41	601	APSPRRPWGHFTEEDQGLLSTSLWGK\W KCGKNAGRKKPLGKAPLVVL\HPWDPK RSFEQALGNPVLPSA\IMGNPPKSRAHG K\KVL\TSLGEMPIKHGP*SSKGTFAQA*S ELH\CDK\LVDPENFK\LLG\NVLT\VL\A AIPPSAKEFTPGGCRASWAERWVTWSW PVPCSSRIPLSSLAHDCRAFQG
310	8361	A	129	3	369	PGFPLFSFPEGNGPSKRQTDG*IRCLF*DG KVWECSPSSSSSPKRRKAVIF\CVPVQ TKCIVVEGGEETLVGDV*V*P*GSFKHV VAMFPEK/DCLCTLYEASF\KTESRRVD GFVCVRVGT
311	8362	A	1290	2	217	
312	8363	A	1291	1	2283	
313	8364	A	1292	249	433	KWRCGNWPRRTLMPWLH*NFVPTLGQT ELQLKEFLSICKEENMKFCWQKQHFEN KKVPAS
314	8365	A	1293	778	1578	PRQVDPSWGFHSRLSGPW/H\WTERDAT SLSKGKVPGAPGGHPLWKNDAGRGEIN ELKQVEGEASCSSRKGLIFFYEWNIK GWKGIVKESGVKHKGLIEIPNLSENEV DDT/EEFTTGMLPTKAMATQELTVKRR LSGNTLQVQASSPVALGVRIPTVALHMM ELFDP\T/S*SSLYSIFTVKEEERV\CVLFSLT NKKIIMKWR\WGTWPEEHYAMVALNFV PTLGQTEQLKEFLSIYL*RKVP*NFCWQ KQHFEEIKGSLQLTPLNG
315	8366	B	1294	46	386	XIRHESGSRSHSHCSTLSSIGDVAKKLGE MWNNTAADDKQPYEKKA\KLKEKYEK DIAAYRAKGPDA\AKKG\VVKA\ESKKK KEEEDEEDEDEDEDEDEDEDEDEDE DDE*
316	8367	A	1295	263	484	
317	8368	A	1296	157	886	TWGGKDLKKPRANMSSYAFFVQTCRGG VHKKKHDPASVNFS/ESFSKKCSERWKT MSA*R/EKGKFEDMAKADKARYER\EM KTYIPPQRGRQKRKF\KDSQLHPRGPPSG LLSSSCSEYR\PKIK\GEHP\GL\SIGDVAKK LGRDVGINTAAD\DKQPYERRAAKLKE KYEKDIAAYRAKGPDA\AKKG\VVKA\E KSKKKKEEEEGEEDDEDEDEDEDEDE DEDEDEEDDGLMNKLGSGAVFFFSCL
318	8369	A	1297	1	450	CKSRGSNLRVHFKNTRETAQAIKGMHIR TATKYLKDVTLQKQCVPFRRYNGGVGR CAQAKQWGW\TQGRWP\KSAEFLVIEHI QVNKAPKMRRRTYRAHGRINPYMSSPC HIEMILTEKEQIVPKPEEEVAQKKKISQK KLKKQKLMARE
319	8370	A	1298	1	1725	

320	8371	A	1299	278	879	SVKMVRYSLDPGGTPRKSC/SQGRSNL RVPFKDH5*KLPQAHQGVCHIRKSPTKY LKDVHLTRNQCVPIDRYNNGGICKVCR RPKQWGWWTQGRWPQKGVNLFLHML KNAE/SNAELKGLDVDFLVIEHIQVNKA PKMRRRTYRAHGRINPYMSSPCHIEMI LTEKEQIVPKPEEEVAQKKISQKKLKE TPTLWHGE
321	8372	B	13	7	177	MSVSARSAAAEERSVNSSTMVAQKKNL EGYVGFANLPNQVYRKS SVKRGFEFTLM VVE*
322	8373	A	130	412	616	VFVCLFVCFETGSCSVTQAGGQWCNHG SLQPQATSAS*IVGIVAGVYHHFQVFL LLLNRDEVLLY
323	8374	A	1300	85	266	
324	8375	A	1301	1	1776	
325	8376	A	1302	207	1645	LSQRALRLSPRARSFSLSPACPLPCLLALS LALSSRIEGLTTACGWGRETEAAAAQG KRGCSGSGSRKMSGEDQEQETIVD/DSL VVTKYKMGDIANRVLRLSVEASSGVS VLSCEKGDAMIMEETGKIFKKEKEMK KGIAFPTSISVNNWCM/CHFSPFERSDPG LYSSKEGDLVKIDLGVPCWMGFANVA SH/SFVVDVAQGTQVTGRKADVIKAAH LCAEAA\RLVKPGNQNTQVTEAWNKV AHSFNCTPIEGMLSHSLKQHVIDGEKP*F QNPTDKQK\RAHEKADFEV\HEVYAVDV LVKPQERARPKDAGQRTTIYKRDPKQY GLKMKTSRAFFSEVERRFDAMPFTLRAF EDEKKARMGVVECAQT*TCWQPFNVL Y*EGRVILFAQFKFTVLAHGPNGPMTJ SIGPFEPDFYK\SEMEV\QDAELKALLQ'S SAKSEKPOKKKKKKASKTAENATGGIL CSLGNIRRK
326	8377	B	1303	29	200	MSRTRLVCPSLIPFCIYVVDVGFSPGPQS CTSHEPKDIHAKCELAFLHHQRFYKNEG X*
327	8378	A	1304	138	1908	ASRTAVARWECVLQNVRRPSPSRAWP SQLRPIASTATKCRE\CGPGYSTPLEAMK GPREENVYL\PCILPETQGTEGPRLSWAT VDVDPKSPQYCQVIHRLPMPNLKDELH HSGWNTC\GSCFG*LAPSRGTKLVLPSP HLLFGIYVGGTWGSEPRAPKLAQGSLS RDIHAKC\NWAF\HTSHCLASGEVMISL GDVKGNKGKGFVLLDGETFEVKGWTER PGGAAPLGDFWYQPRHNMISTEWAA PNVLRDGFNPADVEAGLYGSHLYVWD WQRIEIVQTL\SLKDGLIPLEIRFLHNPDR CPKAFVG\CALQAPNIQRF\QTRGGTLF SGRR*FQV\PPRKLKGWLLPKMPGL\TTI LASPWNDGFLYFS\NWLAWGP*GKYDIS DPQRPALTGQLFLGGSIVKEGPVQVLED EEL/TSPSPEPLVVKGKRVGEGPQMINQL SLDGKRLNNHHGRCT\ALGQSSFP*SQ SGERLLVNAGRVEW*DNSKKGGA*KLN PQLSWVDFGEGAPLPKPLPH*ARYP\GGA DCSSDIWILNSPPSHPHSLFWALHFPGGP GLSFCISL\GTRTLGKHVPTTAKLRLWQC VES

328	8379	A	1305	1	1000	STRAPSPGPFSSKLAGAYKSWCRRDPR THSAGAAQAAAARSVPICAPTASATMS HHWGYGKHNGPEHWHKDFPIAKGERQS PVDIDHTAKYDPSLKPLSVSYDQATSL RILNN\GHAFNVEFDD\QDKAVLKGGP L\DG\TYRLISVFTFWG\SF*WDKVSEAY CGIKKKYAAE\TLGHWNTKYGDFGKA VQEPDGLAVLGIFLKVGSAKPGLOKVVD VLDSIKTKGKSADFTNFDPRGLLPESLD YWTYPGSLTTPPLECVTWIVLNFPSV SS\EQVFEIP*TLTFNGGGVNPEELMVDN WRPA\QPLKNR\QIKASFQIRWSHLSYSK
329	8380	C	1306	127	435	MAASXNPEVLDITEETLHSRFLGVRNV ASVCLQIGYPTXASVPHSIINGYKRVLAL SVETDYTFPLAEKVKAFLADPSAFVAAA XLGCCHHSCSXCCCSPS*
330	8381	A	1307	1	689	KCFI/VGADNVASKQMQQIRMSFRGKAV C*WGKNTMMRKPIRGHLENNPALEKLL PHIRGNVGFVFTKEDLTEIRDMLLANKV PAAARAGAIAPCEVTVPAQNTGLGPEKT SFFQALGITT\KISRG\TIEILGVRNVASVCL QIGYPTVASVPHSIINGYKRVLALS\VED YTFFPLAEKVKAFLADPSAF/VAAAP/VAA ATTAAPRAAAAAPAKVEAKEESESEDED MGFGLFD
331	8382	A	1308	68	1111	RTAVMPREDRATWKS\NYFLKIIQLDDY PKCFIVGADNVGSKQMQQIRIVPWGEA CVLMGQKTM\MGQAHPKGT\*NNPSLW RKLLP\HIRG\NLGFCFTQGGPSLEIKGHV CLANKGLPSWLPVVGANC\PHGESHWWP APEHWSSGPEKTSFFPGL*AITTKV\SQGA PIENPEVNVPAESRTGDQSGEPSEANAA* TCSNISPF\SFGAGSSQPGVSTNGSHLPL KGLDIHRNLCIFWLSWEGVRKCCPVSV CQIGYPTVASVPHSIINGYKRVLALS\V EPDYTFPLAEKVKAFLADPSAFVVAATC GLLPPQLLL\VVVAAPAKVEAKEESESED EDMGFGLFD
332	8383	A	1309	60	569	STDLEELPTLGWF*KQELIILSCPFVSLTY RERLPANFFKFQFRNVEYSSGRNKTFLC YVVEAQGGGGQVQASRGYLEDEHAAA HAEEAFFNTILPAFDPALRYNV\TWYVSS SPCAACADRIIK\TSLKTNLRLILVGRIL FMWEEPEIQAA\KKLKEAGCKLRIMNLV
333	8384	A	131	278	464	YTHILRQLPTLRHEQKSRENCLEEMSLD RFQAAKPSPTPTHHTYKPTLAGH*KIHA MGLTRA
334	8385	A	1310	62	858	QLRWDSGARAWPRPACLSPLPQRLLSHS PSMAQKEEA\AVATEAASQNGEDLENLD DPQKLKELIELPPFEIVTGERLPANFFKFQ FRNVEYSS\GRITL\LCYV\*STGARGG KVQASWGYLEDE\HAACPLQKESFSFNT ILPAFRPKPLAVTNVT/WGYVSSSPCAA CADRNVK\TSLKTNLRLILVGRILFMWE EPEIQAA\KKLKEAGCKLRIMKPQDFRI LSWE\NFVEQ\EEGESKAFQPWEDIQENF LYYEKLADILK
335	8386	A	1311	1	727	NTEDQRNEEKAQREANKKIEKQLQKDK QVYRATHRLLLLGAGESGKSTIVKQMRI LHVNGFNGDEKATKVQDIKNNLKEAIET IVAAMS\NLVPPVELANPENQFRVDHILS VMNVPDFDFPPEFYEHAKALWEDEGVR ACYERSNEYQLIDCAQYFLDKIDVIKQA DYVPSDQDLLR\CRVLT\SGIFETKFQVD KVN\FHIV*RGVGQORDERKWIQCFNDV TAIIFVVASSYNMVIREDN

336	8387	A	1312	2	1271	PVRSSAPRRGHSVASAPRSGLRQVAGRR GAALPCSLAPGCGAAAGASPCPGAGRR RAAGGRCLACECTSLTCAGESGKSTIVK QMRILHVNGFNEGGEEDPQAARSNSD GEKATKVQDIKNNLKEAETIVAAMSNL VPPVELANPENQFRVDYILSVMNVPDFD FPPEFYEHAKALWEDEGVRACYERSNE YQLIDCAQYFLDKIDVIKQADYVPSDQD LLRCRVLTSGIFETKFQVDKVNFMFDV GGQRDERRKWIQCFNDVTAIIFVASSS YNMVIREDNQTNRLQEALNLFKSIWNNR WLRITISVILFLNKQDLLAEKVLAKSKI EDYFPEFARVYTTPEDATPEPAGEDPR* TRAKYFIRDEFRLISTASGDGGHYCYPH FTCAVDTENIRRVFNDCRDIIQRMHLRQ YELL
337	8388	A	1313	235	1571	GRPRPPPPQGRAPPPPPRPMGCLGNSKT EDQRNEEKAQREANKKIEKQKQDKQV YRATHRLLLLGAGESGKSTIVKQMRILH VNGFNEGGEEDPQAARSNSDGSEKAT KVQDIKNNLKEAETIVAAMSNLVPPVEL ANPENQFRVDYILSVMNVPDFDFPPEFY EHAKVLWEDEGVRACYERSNEYQLID CAQYFLDKIDVIKQADYVPSDQDLLR/ CARVLTSGIFETKFQVDKVNFMFDV GGQRDERRKWIQCFNDVTAIIFVVGSS SYNMVIREDTGHNLGAGRL*TSKGIW DNRWAAAPSLVILFTKQ/EILLA*ESPLA GNSKIKDYFPEFARVYTTPEGCYSRPG EGPHGVYRGQVTPFEDEFRLSSNCPVED GRHYCYPHFTCAVDTENIRRVFNGLAV DIHFSGMHLSFSYGAGFKEGEPKFNLK A
338	8389	A	1314	3	784	
339	8390	A	1315	3	2231	PAMNGLSSELCCFLCPCPGRIAACKLA FLPPEATYSLVPEPEPGGAGAAPLGT RASSGAPGRWKLHLTERADFQYSQREVR STIEVFPTKSARGNRVSCMYVRCVPGAR YTVLFSHGNAVDLGQMSFYIGLGSRL HCNIFTYDSSGYGASSGRPSERNLYADID ATWQALRTR*GRPLVGRVRARWRPRLT LLRRRQVRHQPGQHPSTGRSIGHGAPP WDWASRYECAAVILHSPLNLGHARRIPR HPRKTYCFDAFLHSRKVSKINVSPCSSS HGHEGRGDRLSRTGWALYEALPPRRVE PLWVEGAPGTTDIEPLQPVPGAAGVAFIL PGAAQPARLAAAPNRPDLNKAAPGLHP APAPTQGLACGPPGRPRWRPGLGGARH EWAVDDVQATRTHSFPFGSKKKIRENG QLKI
340	8391	A	1316	1	1347	
341	8392	A	1317	53	1027	NFRVEAGVRGVQKQKTCFAKVLESIGKL GLALSAGGAENSALYNVDAGHRAVIF DPIPGQK*QDIVVGEGETHFLIPWVQKPK LSNDCRSRPRNCCQSITGSKDLQNVNIT LRHPSSGPVRQPSFPRIFTSIGEDYDERV LAVPSQLENLKSVWARFDAGELITQRE LVSRQVSDDLATERAATFGLILDVSLT HLTFGKIDFT*AVIEAKQVAQQKQRRRA RFV/VLEKAEQOKKAAIISAEGDSKAAE LIANSLATAGDGLIELRLKGLQRTFAY QLSTLSGTSPYLPAGQSVLLQLPQLRAH PCLAPPAGLTWGHSPD
342	8393	A	1318	424	598	
343	8394	A	1319	3	371	



344	8395	B	132	639	1718	MDPLGPAKPQWSWRCCLTTLFQLLMA VCFFSYLRVSQDDPTVYPNGSRFPDSTG TPAHSIPLILLWTWPFNKPIALPRCSEMV PGTADCNITADRKVYPQADAVIVHHREV MYNPSAQLPRSPRRQQRWIWFSMESPS HCWQLKAMDGYFNLTMSYRSDSDIFTP YGWLEPWSGQPAHPPNLNSAKTELVAW AVSNWGPNSARVRYQSLQAHLKVDV YGRSHKPLPQGTMMETLSRYKFYLAFE NSLHPDYITEKLWRNALEAWAVPVVLG PSRSNYERFLPPDAFIHVDDFQSPKDLAR YLQELDKDHARYLSYFRWRETLRPRSFS WALAFCKACWKLQESRYQTRGIAAWF T*
345	8396	A	1320	1	1596	
346	8397	A	1321	2	556	WDMMYVTRFASFLRNVLPSFISDWLYV QKMNTWFKHENYGLMPLNGYLKMEIFF IQKRGALI**IYLSIKPSVKEFTETSAVFED GTMFEAIDSVIFATGYDYSYPFLDETIMK SRNNEVTLFKGIFPPLMEKPTLAVIGLVQ SLGAAIPTADLQAWWAAKVFAWRWAIL SFIHFINEHLLNTCY
347	8398	A	1322	955	1187	IIFFFFFKMESCPFAQAGVQWCDLGSLO ALPPGFTPFSCSLSSWDYRRPPPHLAN FLYF**TWVFTVLARMVISIS
348	8399	A	1323	6345	9041	
349	8400	C	1324	182	433	
350	8401	C	1325	72	254	MVSTQLRQASDPRTTIGRERFELLRRV DKLMSPRLPTGTNLPHHFWTSLIPQVGR CNAF*
351	8402	A	1326	225	735	GELRVNSLHVSTHFQIPEETDIGVLVSPG QGPAPFEDIQLWPPGSLMAAEPTDQSL EESH*DRWITFFTFARIQEGRKD*PQRS NEFKELVTOQLPHLALKDVGSLDRKN*G AWDVNQDFGGSRFNEYWRLLIGGAWPK EIRKEEKLKIQERSKAAWLEDGVGQGR T
352	8403	A	1327	55	391	
353	8404	A	1328	996	1334	WASVGLSGPRSPSSRPQ*ARPRPGAPAS LRQADLGRGWRDRLGAPRPRPRTGGW RSCCRGRPGSRPRGARAGLPGAPGG WRRSRRSWTRARAATRPAAARGSRTP RG
354	8405	A	1329	1	993	
355	8406	B	133	1154	2233	MDPLGPAKPQWSWRCCLTTLFQLLMA VCFFSYLRVSQDDPTVYPNGSRFPDSTG TPAHSIPLILLWTWPFNKPIALPRCSEMV PGTADCNITADRKVYPQADAVIVHHREV MYNPSAQLPRSPRRQQRWIWFSMESPS HCWQLKAMDGYFNLTMSYRSDSDIFTP YGWLEPWSGQPAHPPNLNSAKTELVAW AVSNWGPNSARVRYQSLQAHLKVDV YGRSHKPLPQGTMMETLSRYKFYLAFE NSLHPDYITEKLWRNALEAWAVPVVLG PSRSNYERFLPPDAFIHVDDFQSPKDLAR YLQELDKDHARYLSYFRWRETLRPRSFS WALAFCKACWKLQESRYQTRGIAAWF T*
356	8407	A	1330	72	496	PPWARGSARRPPAWRTVRMPSCHPRMF GAPQKTFLRVSVWSRCRPWGIVMRMM* PMRGQVRRHNSCMAPKTEE*NPTVSATF CCCSFVSCSWPPVTRYSSILFTAAM
357	8408	C	1331	202	378	MTPYLTLFLSPLPPKGEIWGLLLFLTPLG FLLPSLPLLLPCAPAGVRRQWDGPTG A*
358	8409	A	1332	1	1541	

359	8410	A	1333	9	345	YLSEVGVSVGIVIRPRQWIRREPGDPFHG GRLKMDPLRAQQLAAELEVEMMADMY NRMTSACHRKCVPFPFKEAELSKGESV CLDRCVSKYLDIHGA*WGKKFDRVLL QG
360	8411	A	1334	170	842	EHVYKLPKAKITRPLMLSSARGGAEES ERAEPPLRWAFLLGLGTVVGVDESTAF SWPVCDMCGNGRLEQRPEDRGAFSCGD CSRVTSPVLKRHLQVSLDCRSRPQCRV KVKLLQRSISSLLRFAAGEDGLYSQWLIR SLLRIWKEADRRWVPEGPG*RC*LRDTQ YGFQCFSGATK*RSVFGKEVGLLNCFVQ SVTAHPTSCIGLEEIELLSAGGASAEH
361	8412	A	1335	2	2925	FVLRRCQAALPEMPRGRSARGSKRK RSWNTECPSPFGERPLQRRAGLRTAG AAASLSEAWLRGCGEFQNTSGNPISLTA EEKTVTEKHLELCPRPKQETTTSKSTSGL TDITWSSSGDLSDEDKTLSQLQDELQF IDWEIDSDRAEASDCDEFEDDEGAVEISD CASCASNQSLTSDEKLSLKPSSIEILEY SSDSEKEDDENLVLIDSESPHYHVQFA SDARQIMERLIDSRKSPETILHTP
362	8413	A	1336	1	480	NFALEAKNSARAISVVQTPMGHFTTED Q/ALTITSLWGKIVNVEDAGGETPGKGS LVVYPWTQRFFDSFGNLVLLPSCPSMG NPQKSKATWPRKVLTSLGDAITKHLADD LKGHLLPKPEVNLHLLTSLHVG*GTFKL PGEILLVTRFWAIPFSAKEFHP
363	8414	A	1337	52	454	SQTQREPTMVLSPADKTNVKA/WGMF LSFPTTKTYFPHFDLSHGSAQVKGHGKK VADALTNVAHVDDMPNALSALSDLHA HKLRVDPVNFKLLSHCLLVTLAAHLPAE FTPAVHASLDDKFLASVSTVLTSKYR
364	8415	A	1338	3	616	PTLLVPTDSERTHPWLLSPADKQDQGP AWG*G*GSHPPSNVAKTLER/MVLFPPPT PKPYFPHFDLASHGSAQVKGHGKKVA DALTNVAHVDDMPNALSALSDLHAH KLARVDPFNFKLLSHCLLG*PWAHLPR PSFTPCGCKASLADKFPGLFVEAPLLEPSK LPLKLGSLRLAMLLCPFGFPQPLPFPA PVPPWSLK
365	8416	A	1339	2	390	GWDWNCVWEPHHWLCQSL/NSVTQAG VQLCNLSSLQPLPLGFKQFCLSLPSSWD YRNPSLKQQLFSYAILGFALSEAMGLFC LMVAFLNLSLPCGAVSTSHSPASGWPR VFLFLYLPRQPGERGWLVRV
366	8417	B	134	1029	2108	MDPLGPAKPQWSWRCCLTTLFQLLMA VCFFSYLRVSQDDPTVYPNGSRFPDSTG TPAHSIPLILLWTWPFNKPIALPRCSEMV PGTADCNITADRKVYPQADAVIVHREV MYNPSAQLPRSPRRQQRWIWFSMESPS HCWQLKAMDGYFNLTMSYRSDSDIFTP YGWLEPWSGQPAHPPLNLSAKTELVAW AVSNWGPNSARVRYQSLQAHKVDV YGRSHKPLPQGTMMETLSRYKFLAFE NSLHPDYITEKLWRNALEAWVPVVLG PSRSNYERFLPPDAFIHVDDFQSPKDLAR YLQELDKDHARYLSYFRWRETLRPRSFS WALAFCKACWKLOEESRYQTRGIAAWF T*
367	8418	A	1340	13159	14007	VLSPLRLKCSGTISAHCNLCPLGSDNSPA SASQVAGITGAHHHARLIFYFFILFYFIFL R/HESDSVTQAGVQLCNLSSLQPLPLGFK VHSLASASQVAGITGTHRYPQLIFVFFFL F/SFLRQSL/DSVAQAGVQWRGLGSLHP LPPGFTPFSCSLSSWDYKRLPTRLANF LYF**RQGVTVLARMVVIS*PRDLPTSAS QSAGITDMSHCAQ/LIFVFLVETGFHQVG QAGLE/PPDLKQSTHLGLPKCWDYRREP

						PRLA\NFCIFSRDGVSPCWPGWSPTSFGK
368	8419	A	1341	1	532	DSGTRDTVLKLLREWYMIISREMFNPMY ALFRTSPGDRVITYINPSSHCNPNHLSYF KFVGRIVAKAVYDNRLLECYFTRSFYK HILGKSVRYTDMESDYHFYQGLVYLL ENDVSTLAGYDLTFSTEVQEVGVCVRD LKPNGGNILVTEENKKEYVHLVCQMR MTGAIRKQFG
369	8420	A	1342	1	530	AEADAIQMVREGQRARRQQQAATSESS QSEASVRREESPMVDVQPSAQTQSI ASDGTGPQGEKEKEERPPPELPLEQLAL DELWDMLECLKEEESHQHAVLETH RTVLNQILRQSTTHLADGPFVAVLDYIR VLDFDVKRKYFRQELERLDEGLRKEDM AVHVRRDHVF
370	8421	A	1343	262	587	PVSKESEVAPLCDFCLPFIQSESSQSEASV RREESPMVDVQPSAQTQSIASDGTGP QGEKEKEERPPPELPLEQLSLDELWDM LGECLKEEESHQHAVLVLQPA
371	8422	A	1344	1	2502	MTPPHLPRRASDDEFENLRIKGPNAVQ LVKTTPLKPSPLVIPDTIKEVIYDMLNAL AAHYAPEEVGFTSPMLFDERKYPYHLM LQKFLCSGGHNALFETFNWALSMGGKV PVSEGLEHSDLPDGTGEFLDAWLMLVEK MVNPTTVLESPLSLPAKLPGGVQNFQF SALRFLVVTQAAFTCIKNLWNRKPLKV YGGMAESMLAILCHILRGEPVIRERLSK EKEGSRGEEDTGQEEGSRREPQVNQQQ LQQLMDMGFTREHAMEALLNTSTMEQA TEYLLTHPPPIMGGVVRDLMSSEEDQM MRAIAMS LGQDIPMDQRAESPEEVACRK EEEEERKAREKQEEEEAKCLEKFQDADPL EQDELHTFTDTMLPGCFHLLDELPTVY RVCDLIMTAIKRNGADYRDMILKQVVN QVWEAADVLIKAALPLTTSDTKTVSEWI SQMATLPQASNLAIRILLTLLFEIEVRS WSYPPFQDKDHCKKEKENFEAIAAALA AERESKPPVRDTRESQLAHSKDEPPPLSP APLTPATPSSLDPPFSREPSSMHISSSLPPD TQKFLRFAETHRTVLNQILRQSTTHLAD GPFVAVLDYIRVLDFDVKRKYFHFQELER LDEGLRKEDMAVHVRRDHVFEDSYHTA SQSLTHTNDWMYPGFSQAQLFSASAFLCR YIVFEGEEGQDAGGLLREWYMIISREMF NPMYALFRTSPGDRVITYINPSSHCNPN HLSYFKFVGRIVAKAVYDNRLLECYFT RSFYKHILGKSVRYTDMESDYHFYQGL VYLLENDVSTLAGYDLTFSTEVGQEILITA HPSQSGRSNSQVHLRTSTA

372	8423	A	1345	1	2218	MPQLPGISLPEGVDPSFLAALPDDIRREV LQNQLGIRPPTRTAPSTNSSAPAVVGNPG VTEVSPEFLAALPPAIQEEVLAQQTAEQQ RPELAQNASSDTLMDPVTLIQTLPSDLRR SVLEDMEDSVLAVMPPDIAAEAQAALRRE QEARQRQLMHERLFGHSSTSALSAILRSP AFTSRLSGNRGVQYTRLAVQRGGTFQM GGSSSHNRPSGSNVDTLRLRGRLLLDH EALSCLLVLLFVDEPKLNTSRLHRVLRN LCYHAQTRHWVIRSLLSILQRSSSELCIE TPKLTSEEKGKKSSKSCGSSSHENRPLD LLHKMESKSSNQLSWLSVSMDAALGCR TNIFIQIRSGGRKHTEKHAASGGSTVHIHP QAAPVVCRHVLDTLIQLAKVFPSHFTQQ RTKETNCESDRERGNKACSPCSSQSSSSG ICTDFWDLVVKLDNMNVSRKGKNSVKS VPVSAGENKVSEAQANSQSGASSTTTAT STTSTTTTAASTTPPTAPTPTVTSAPAL VAATAISTIVVAASTTVTTPTATTTVSIS PTTKGSKSPAKVSDGGSSSTDFKMVSSG LTENQLQLSVEVLTSWSCSEEGLEDAAN VLLQLSRGDSGRDRTLKLLLNARHLG YTLCKQIGTLAELREYNLEQRRRAQCE TLSPDGLPEEQPTTKLKGKMQSRFSGL GSASSIQA AVRQLEAEADAIQMSSESSQS EASVRREESPMDDVDQSPSAQDTQISIA
373	8424	A	1346	59	6349	KISQYYMHTPISPHRLLISPIAPRKVEW TGLKVKSQDRLFAQQLQVELVALPLVLC LAASALGRSTTSFVSLGQPHAAIQTYSQ KWPTAVSASPFLPLRGSGTGNGSSRIPRE SAPEMATAESLVEELSEDAAGGASPGVE LPALGCSELPAAEVSPATASSKNLETICEY AYCMAMLPETGLDPYPKRGFLDLTQERI WTDIPSPGNIPHTHPLMVRHADHSSLTL GSGSSTRLTQIGRSQRTLRLQLTAN
374	8425	A	1347	1	746	MAAAGAFRLRRAASALLRSPRLPARSC RPRPDSITRSPDVRPLEKQLKNAINQR GTKGPYIRYYPEVVDHYENPRNVGSLDK TSKNVGTGLVGAPACGDVMKLQIQVVG *KRGFRVGC*GFKTFSAVGSAIASSSLSH LNGVKGKTVEEALTIKNTDIAKELCLS FPWKLALAPMLGLKVAFKAALADYKIE TRTQKKGEAEKKWSPPLGEASSRPTPAV PQPAVPVTLDVSGSRLPSPTEGAL
375	8426	A	1348	2	832	SARGSTVAAIICSPRLTPPRTRDAKAACE RLRRVGVEPQLSRGLALFWSPRNPPEE MSGGLAPSKSTVYVSNLPFSLTNNDLYP DIFQSIGKSL*KVTNQ*KSKRY/HRKEVK GVAFILFLDKDSAQKICARAINNKQLFG RVIKASIAVDNGRAAEFIRRRNYFDKSK CYECGESGHLASYACPKNMLGEQ*/RLP KKKEKKKKKKKAPEPEEEIEVEESEDEG EDPALDSLSQAIAFQAKIEEEQKKWET QFQGVPSNIRMIPRTRIKKSTYFQ
376	8427	B	1349	165	520	XNLKLLDNWDSVTSTFSKLREQLGPVTQ EFWDNLEKETEGLRQEMSKDLEEVKAK VQPYLDDFQKKWQEEMELYRQKVEPLR AELQEGARQKLLPVLESFKVSFLSALEE YTKKLNTQ*
377	8428	A	135	885	1173	LSQGPRRHSSAVQPPPHSHRGHHDDCA SPSQVRQNYAINRQINVELYASYIYLSM SYFFDHNDVALKNFAKYFLHQSHEERE HAKKLMKLLHFDC
378	8429	A	1350	3	558	
379	8430	A	1351	3	118	
380	8431	B	1352	28	384	MKAAVLTAVLFLTGSGARHFWQODEP PQSPWDRVKDLATVYVDVKDSGKDSV TSTFSKLREQLGPVTQEFWDNLEKETEG LRQEMSKDLEEVKAKVQPYLDDFQKKW

						QEEMELYRQK*
381	8432	A	1353	2	1093	GGASCCLPRSLWLPSSRFPCRPGLWV PEVFSRSVPFSSPGCNEWGSTGLLHAEGT PLSQALLLLQVPHGPFPMKAAVLTAVL FSDG*ARRRHFWQGG*SPPRAAWDRVK DLATRVPTVLKEQRTETYVSQFEGSA LGK\QLNLKAPLTTGDSVDLPFSLKRE QF\GPC*PRDFLGINLGKRETEG*GKGR* GKDLWKEVKAKVAALTLDQFQERSWQ EEIGAFTROKVEPLARKNFQEGVARPESL HELARRSLSPLEEMRDRARA\HVDALR THLAPYSDELRLQRLGAR\LGALRENGGA RMGQYHA\QATEHLSTLSEKAKPALEDL RQGLLPVLESFKVSFLSALEEYTKKLT Q
382	8433	A	1354	119	301	INDKRKKRPARPGAGGLHLQLCLSOPP QPRGHPAPIPTGQAGPRDSGPGASP*/GR DPPSD*WTPADLGSDPWAGPLPTQEP* GSRWPSSATVLSASTATGTPCTYSHGT GWTQRLWTRGLPLSRDPPSD
383	8434	A	1355	1451	2495	RGLAGNFEDRKS AHYVFQTFRGGERSL ELEAHLEGWSLGLRFLGLPKGPAAQ HFHPSLPISSWRGAGVPHSR/SPFPTLGIP G*IFPPKPGRRPRGPPRKEDLGPGMVGR PSGPLQLPSAVLSADPAGPRPHVPFCEP/ SPSHGVRASPGSKWVEEIGGEEGRQ/PK CRQAFQEA WLMQ/GARGQGLPGS/GC WRINKPSKPSKRGKGLTCQTFSTNIC*S PPLMPRSLP/GPSFILHLISSQQP*SGLLFID PIPPEKGRGGLSERWGRAFGDSVACSFQ KPTPGWEVFEQDAWPNPWP/QGPPPEN FPKGNPSHSRNIHKGDEQSPVRTKTEPTP WGGKHSQFASR
384	8435	A	1356	2024	2160	KCLCPPR/RCPQPLTPYPC*GVKCPPSEIK YKP*MCPIGCPKPSIQ
385	8436	A	1357	15717	16041	
386	8437	A	1358	41	544	TKLVMMQKLLKCSRLVLALALILVLESS VQGYPTRKPRHQWVRNPDSSSAHCLE EKGHMFELLPGESNKIPRLRTDLFPKTRI Q\DLNRIFPLSEDYSGSGFGSGSGSGS \GSWFLTGNGNRNYQLAVDE\SDAFQ*QP LGSLDRNLPSDSQDLGQHGLEEDSMV
387	8438	A	1359	60	401	
388	8439	A	136	961	1051	
389	8440	A	1360	59	420	QQHGRDLWGCRGLIGTDKCVERINEMV NRAKRKAGVDPLVPLR/MLGGVVLISGT GSNCRINPDGSESGCGGWGHMMGDEG SAYWIAHQAVKIVFDSIDNLEAAPHDIG YVKQAMFHYFQV
390	8441	A	1361	80	384	KEHNFVTSVFARGTMGSLTHLLGNSLT EKCKLPSWLPITAEGNSLKGFL/LALTQG KEIQAQNFSSFILMKLRHSSALGGASLL PMDYSANAIAFYSTFS
391	8442	A	1362	3	124	
392	8443	A	1363	189	242	
393	8444	A	1364	420	557	
394	8445	A	1365	284	362	
395	8446	A	1366	2087	2226	

396	8447	A	1367	1	2956	MNTSQLLEIANQVFNRAAVSLEENRKE NGHQARRNTDLVVSCSNQRGQESLEKL LGRYFYISHLSALAKTMRQRFVTCRHHN ARQGPVPPGIQAYAAAPIEDLQAIRNNI TAGVYTPCDIGGNIILCPLAYYQRYQTG VYYTPCDIGSIHLSTSGCPSHTEPRNLTG VSEFLLGLSEDPQLQPVLPGLSLSMYLL TVLRNLLIILAVSSDSHLHTPMYFFLSNPS WADIAFTSATVPKMIVDMQSGVVVSV
397	8448	A	1368	149	1323	PRNEPNSPERRPLAMDAGVTESGLNVT LTIRLLMHGKEVGSIIKKGESVKRIREE SGARINISEGNCPERIITLTGPTNAIFKAFA MIIDKLEER/DINSSMTNSTAASRPPVTLR LVVPATQCGSLIGKGGCKIKEIRESTGAQ VQGWRGICLPNSTERAITIAVGPKSIVTE CVQADFAWVMLETL/SPSFPQGRSSWTI PYQPMFASFPSSSCAGGQDRCSDVGG YPHGHP*PGKGPLLDGLFDFKGQHTISPL DLGQA*TRIGKPTSLNVHMMHGGTGF AGIDSASPEVKGYWAKFECIYPKTPHEL TTPNNLAGCIHGRQADSDLMRSAQMSG QDQKLANPVEGSSGRQVTITGLCCPVI SLAQYLINARLSSEKGMGCS
398	8449	A	1369	2	125	
399	8450	A	137	2	804	SSGFPASTVLGRNPALVPHGRPPIASPPS PLHRTLGLPQGPRRRSSAAQPPPPAAASP LVAAMKTAVPPRKVRQNYHQGLKRAA HQPARIINPGSSTASYVLPCPMSYLLLRD DGGL*RTFAKYFLHQFSMKEEGNHAEK T**KLAEPNEGGRNLSFKDIQEPDCSDW GERGLNAMECALHLEKNVNQSLLELH KTGPLTKMTPHLCDFIETHYLNQGES HQKNLGDHVTNLRKMGAPESGICAEY LFDKAHPWGDSDNES
400	8451	A	1370	18	1374	LAEQIVPRGVGIRPPDKADQAPCRSPIRT PAPESWHCDSRQFRQDSSRMKMRVLG LVVCLVLWTLHSESGGKLTAVDPETN MNVSEHSYWGFPSEEYLVEDGDYILCL NRIPHGRKNHSDKGPKPVVFLQHGLLA DSSNWVTNLGNSRLGFILADAAIDVWM GNTRGNTWSPKHKTLSVSQDEFWAFSY DEMAKYDLPASINFLNKTGQEQVYYV GHSQGTIGFIAFSQMLELAKGLKMFFA WGPVASVAFCTSPMAKLGRLPDHLIKDL FGDEEFLPQSAFWKVAGVPHLATHVILA KELCGNLCFLLCGFNERNLNMSRVDVY TTHSPAGTFVQNM*HWSQAVKFQKFQA FDWGSSAKNYFHYNQSYPTYNVKDML VPTAV*TGGHDWLEDVYGVNI*LTQIT NLVFHESIPEWEHLDFIWGLDAPWRLYN KIINLMRKYQ
401	8452	B	1371	77	471	ANREKMTQIMFETFNVPAMRACSTPPE DHRHRAGLRRRVTHNVPIYEGYALPHAI MRLDLAGRDLTDYLMKILTERGYSFVTT AEREIVRDIKEKLCYVALDFENEMATAP PPPPWKRAATSCQTGX*
402	8453	B	1372	101	391	MCDEDETTALVCDNGSLVKAGFAGDD APRAVVPISVGRPRHQGMVGMGQKDS YVGDEAQSQRGILTLKYLIEHGIITNWD MEKNGPHLLHEL RV*

403	8454	A	1373	92	1323	LPAQKLDTMCEDETTALVCDNGSGLV KAGFAGDDAPRAVFPISVGRPRHQGVM VGMGQKDSYVGDQAQSKRGILTLKYPNI EHGIITNWDDMEKIWHHTF/YTNELRV GFPKEDP/TLA*PKAPLKFPKANREE/M NEPQIMFETFNVPAMVVAIQAV/LCSLY ASGRYTGIVLDSGDGVTHNVPIYEGYA/ LPHAIHAPWTMAGRD/LTDYLMKILTE RGYSFVTTAERIEIVRDUEKLCYVALD FENEMATAAIHPSS/LEKSYELPDGQVITI GNEARFRCPET/LFQPSF/LSGMEVGGAFH ETTYNSIMKCYIRHPGRIFYANNVLSG GTITIVPLGFADVRMQERDSPAAPQHP* GSRIHSPPPERKIYSVWIGGFHPWRLST SQQKW/VSPKQEYDEAGPSIVHRKCF
404	8455	B	1374	53	302	MTSALTQGLERIPDQLGYLVLSEGAGLA SSGDLENDEHAASAMSELVSTACGLRLH RGMNVHFKRLSVVFGHEHTLLETRVLTEX *
405	8456	B	1375	277	573	TSALTQGLERIPDQLGYLVSSGDLENDEQ AASAISELVSTACGFRHLRGMNVFPKRL SVVFGHEHTLLVTVSGQRFV*
406	8457	A	1376	209	413	EAGRREAELKPLGSSPPLPVPPPRAGAGA HQTGA*RAHSMPRCSRKPQAVLTSSSEM ALAACSSFSRSPDDASTAPSLSTR*PSTTT KGRGRGSPDRRLKGTFNAAVQPETAGC ADQLRDGTGCLLIJLQVPR
407	8458	A	1377	116	1253	NPGPVQVGVEGGQEEGPSSKKQAKTRQ WSPASITEAPGPKIRFSEPLRPPAGCRHQ LASRPRVLP/PSPTQPFPCG/PPSPSSVCSP KDHWRDTPDRRLKGTFMPCSRKTAG CAEQLQRWHWLPAAHSPGPQMTPALHL HSVPGSRAGLGFAPAPGSAQKSSG*RCK S*EAC*RDGRPDTLHLQTQVSGLTWPQ VFSFSPQVSRPPPPYMLNLDLPEPPSA PTLAPRLPWPSTSHLCYPKGPVLPWLP SDP/SSPPFVSARPA/ALPAAPHEPPTDPSP AFSSPSLPFPSPPLPRADRR*GWSAGPPG G/EPHRLGSRDAEPPAGPLAHASSLTIAV FGAGGAPYQIGSFRLQAPVTCLOPLRSSF CLRHWPPLAPPLA
408	8459	A	1378	24	364	PTEY/ENL/FPCIKEAF/VVEWVKETLAV L/WPAKQYPFVTPIEERILMEEGKAFFPSR STAKQKLDGNPVSPTPVIGLSPTPNKEE KHLNLCPFEPHTGHLDGARDTAGPSWLH HRF
409	8460	A	1379	24	2858	VAGNKRGFPLDRRTMPLRLDIKRKLTA RSDRVKSVDLHPTPEWMLASLYNGSVC VWNHETQTLVKTFEVCPLPVRAAKFVA RKNWVVTGADDMQIRVFNYNTLERVH MFEAHSYIRCIHVHTQPFILTSSDDMLI KLWDWDKKWSCSQVFEGHTHYVMQIVI NPKDNNQFASASLDRTIKVWQLGSSSPN FTLEGHEKGVNCIDYYSGGDKPYLISGA DDRVLKWDYQNKTCVQTLEGHAQNVN CASFHPE
410	8461	A	138	3	402	HGKIFYFILFYFYFFIFLRRSLALSPQVRT ADCS/GAISAHCKL/RLPGFTFSLSLPS SWDYRRP/HPRPANFFLYFLVETGVSPC* PGMGLDLLNS/SIPRLGLPKCWDYRREP PRPVETFFLKAENVRVNYI
411	8462	C	1380	110	508	
412	8463	A	1381	93	180	
413	8464	C	1382	128	382	MYLGISRRLSMMLTFLAYLHPRERPPHR APXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXQQAQGTGISIPRTCTST GL*
414	8465	A	1383	3	140	

415	8466	A	1384	1	609	
416	8467	B	1385	1	690	MASWDEKDLTVQPDRKGSVLRCLGS SRALRWAGRGHVAAGWRPLAPESAGG WGMAAAMVPGRSESWERGEPRPALY FCGSIRGGREDRTLYERIVSRLRRFGTVL TEHVAAAELGARGEAAAGDRLIHEQD LEWLQQADVVAEVTQPSLGVGYELGR AVAFNKRLCLFRPQSGRVLSAMIRGAA DGSRFQVWDYEEGEVEALLDRYFEADP PGQVAASPDPTT*
417	8468	B	1386	1	975	MSPPGREQGLLLNLLRPSGLDNAGKTTI LKKFNGEDIDTISPTLGFNIKLEHRGFKL NIWDVGGQKSLRSYWRNYFESTDGLIW VVDSADRQRMQDCQRELQSLVVEEVGS SYPLCTWRFFSYLRIEQMYNLVLYRDIQ FPDFCFNSNTDWSKGLKTHARFGNTSLH VAHTDSTNTTNFVDVWRGRTKSLACLL QLSSLTCIYTAGKMRLQDRIATFFFPKG MMLTTAALMLFFLHLGIFIRDVHNFCTY HYDHMSFHYTVVLMFSQVISICWAAMG SLYAEMTENKYVCFSALTILMLNGAMFF NRLSLEFLAIEYREEHH*
418	8469	A	1387	25	353	EVCYYSSEAFFSELIKVILRHLCVAGK GLCSIPQLNTRGSQLRISKRGSPPLAVEI EEGHCLCLPLGTECLGIKPIVHLLNSEIG EKPPFSPLSPCSSAAFLLLR
419	8470	A	1388	79	467	RPESQRANGVDSPNLKTVQPDRKGS VLKWISKRGKPLAVEIEESHCLCLPLRTE CLGIKPIVHLFSCTRPVIVPSLELHYDIDS IAHMFVADLLLIIITLLSYIIPFYLGFQNA ITGNHRAWFY
420	8471	A	1389	368	611	LCPSHFAPTTLTQSGSSLKTCVVLNSRFK ACRAVPGPCLVNQMFASSILGKSHHSL VPINQGHNAWKAAGVPLPLKAGY
421	8472	A	139	210	1640	DPARAGTGVGASFRGATWQQGQGRGS ACSTQCPPATCLLTGADAPTSRPWSLL SRLLGHCFSVLTVPAAAPPPGSLPEPPR AGPQCP*TRPPLR*PGCSHLAGPHSGSPR PCSLLGASATLYGFRHFLAGPAAQGGGQ AVGSQGDHPTRAQPP*WSSPQTPLNLSA AQEFEPRGTCPTRW*SRPDALPWPRPW EPWSG*AEGWEQE*WRLQPGTAAPRA TSSGYSGSSRGQRARPGPARCGDGGGA GRC/GHVRGRWRQLGHRP/RGSSAPAVC CGTLAAPPGPQHSLSL*SSAPGPQWCP HWHPPQSGRQG*/SPLPPPPGPGRPCCAPC SGSPSA*GGCTPGCPTAP*GRRQGRWR*P RTGRLSPLGHLPGCRSQAASVSHRCWPL LPPPR/PSGPPPLRSGSSPGG/PLPKGC*C QGGERPQQHKEAGQGAQQTWLHPQ APGGRRPSHTGWGGGAPGG*QRRNLA* RPLLP
422	8473	A	1390	441	1178	FVALPQPLCPSHFDPTTLIQGAHKNMCMC CIKSRFKRDLGLCRTCLVNKMFTSSILGK SHCHSLVSINQGHNAWKAAGVPLPFRA GYC/QGFSPCDSLKYGSWDEKDLTVQP DTRKGSVLRWISQRGKPLAVEMEEGHC LCLPLGTECLGIK/PIVHLFNSEIGENRP VMVGGRHVLQ*CCLG*FL*LPLRCLGAGE KHKSGL/HVHIPVIVLSLELNYDIDSF AHMFF/SVDLLLIIITLLSYIIFC



423	8474	A	1391	3	1078	TRAAGLRAGVRVPRSPGPSRRMPARSGA QFCRRMGQKKQPARAGQPHSSSDAAQ VPAEQPHSSSNPAQAPCPRECLGPPTT PGPYRASIYFSSPKGHLTRLGVFFDQPA VPLARAFLGQVLVRRLPNGTELRGPHR WETEA/YTLGPEDAEAPLQGGWPGKTP R\NRGMFH*KPGD/LWVVYIIYGMFYCM NISSQGDGA\CVFLRALEAPGKSWRPMR QLRS\TLR\KGTRQARVLKGPPKLCSPIS KL\CAQ\LPINKSF*PEGTLAQDEAVWLE RGPLEPSEPAVVGS/APRVGVGHAGEWA RK\PLRFYVRGSPWASVVDRAEQDTQ ACAKGLPRQDFLHCLKTRINVLFLEKKK KK
424	8475	A	1392	3	452	
425	8476	A	1393	26	493	NSTDSETHPWLLSPARQRTSRPAWGK VGAHAVRSMCAEALERMFLSFPTTKTY FPHFDLASHGFCPG*RATGKKVDDSDQ TPWPTWDDMPKRRCPP*SDLHAHKL/R LDPV\NFKAPKATCLAG*PLAAHLP\AEF QPLAVARLPWGQISWGFC
426	8477	A	1394	1	409	
427	8478	A	1395	9	817	HGSSSEQEEDKNNQSATPIHSGPATM NSIG*YPTQPTYPVQSPGNPVYPQTLNL PQAPPYTADAPPAYSELYRPSFVHPGAAT VPTMSAAFPGLSLYLPMAQ\SVAVGPL GSTIP\MAYYPVGPIYPTLAPQVLGGKG GYDAG\ARFGAGANGGNIPSPPG\CPP WAAQLAVMQGANVLVTQ\RKGNFFMG GSDGGYTHLVRNQGHLCAREKTSHTLQ HFSQCNCFSHINLKLOFRHMLLGCLSGA QTRHFSNLIRNHVMVAVPP
428	8479	A	1396	1	367	
429	8480	A	1397	625	2919	
430	8481	A	1398	2	76	HHYAKLGTRAVRRARRCAGWQSYVDN LMCDGCCQEAAGYCDAYVWAATA GGV\FQSITPIEIDMIVGKDRKGFFTSGL TLGA\KKCSVIRDSLYVDGDCTMDIRDK QS/QGGEPTYNVA\VGRSGRALVIVMG KGKV\FHRRHTLTRKAYETPLYT*RQAW HEGSAKGSKMCRLELRG
431	8482	A	1399	149	421	
432	8483	A	14	79	533	SSIMTFLESSAVPPHWTGQDGRVCWTG WIPQCQAGSAPE/RS*VFINSAGQKSADT GWSSSKPQN*HLSSFHQAVVGMIQPSHS QFLMKRKAASPRKLEWEH/LQPLHPMTL LYR*DGKPFPR*VLLSTYTYCSSRDRPKSS GKNARRFPAHGSS
433	8484	A	140	885	1173	LSQGPRRHSSAVQPPHSHRGHHDDCA SPSQVRQNYAINRQINVELYASYIYLSM SYYFDHNDVALKNFAKYFLHQSHEERE HAKKLMKLLHFDG
434	8485	A	1400	1	1107	
435	8486	A	1401	25	1486	GPQPHSRSTHASGRPQSLSPVLSLSPDS MSFTTRSTFTSNYRSLGSVQAPSYGARP VSSAASVYAGAGGSGSRISASRSTSFRRG MGSGGLATGVAGGLAGMGGIQNEKET MQLNDRLASYLDRVRSLETENRRLAES KIREHLEKKGPQVRDWSHYFKMEDLAR AQIFVANTCGTMPRIRARIDNARLAVAD DFRVKYEDRSWPMCPVLWRTDIHGLPK VH/IDDTNYHTDLQLETENEALKVEELLFQ *RRNHEEGS*KALRRQISSSGMNAWRL DAPKSQDLAKIMADIRAQYDELGSKK NPRGSLDKYWSQQNEESTTGGSPQKSA EVGA\VETHAHRSLKRTVPVLGRSTLDS MRNLKGQLWRTSLREG*RPAYALTRLE PAPTGSL\HLESELAQTRARGTAARPRE

						YEALLNLIKVKLEAEIATYRRLLEDGED FNLGDALDSSNSMQTIQKTTTRRIVDGK VVSETNDTKVLRH
436	8487	A	1402	36	389	
437	8488	A	1403	204	433	
438	8489	A	1404	3	392	
439	8490	A	1405	1	1314	
440	8491	A	1406	2	279	
441	8492	A	1407	3	1462	TSCSSAAPFAAALARDPNPASPLPEHRPR LHRGPGPPARLAAAMADPKYADLTGIA RNDPDVYETSDLPEDDHAEFDAFAQELE ELTSTSVAEHNVNPNAAAYDKFKDKRVG DKGI*FSQIVLGKTKRTGYESGEYEMLGE GLGVKETPQQKYQRLLEHVQELTTEVEK IKTTVKE\SAAEKLT\PVLLAKQ\LAALK QQ/VWVASHL\EGKLLGPDAAINL\TDPD GRPGLRRLLLQ\LEATKNSLGGSRGKTPG TPPD\SSLVTYELHSRPEQDKFSSSLPKS QKLEKRL\TEL\ETA\VTLLIQDAQNPLSAG LQGACLMETVELLQAKVSALDLAVLDQ V\EARL\QSVLGK\VNEIAKH*SLC*EGAG YTKARLHQLHETITALGAPLPSTLPGAGC RRLVTHQSSLHEASPCQFGQLLDT/HLDT TQPMIANFLGRNTNPL*PQVADKPLRE NLAHQKGNFAQQ*RNG*KKLGKSEAH LGKLEEPGG
442	8493	A	1408	1	4629	
443	8494	A	1409	96	721	PGQLSSLTPPRASLLPWRAAYLFLALFLP AGLLAQGYDLPLPPFDHGYTHYM DQIDNPYYDYQEGTPRPSEGQFQFQS QQEVQQGVIPSPNPRAQGNAL\EPTEPG PLDCREEQYPC\TRL\YSIHRPCK\QCLNE VCFYSLRRVYVINKEICVARTVCAHE\EL LRANDLCSGTSFSKCGR*WASSGL\QSV\A AASCAIRSCGSF
444	8495	A	141	170	737	IVTATCLWGSVLVTHSVFFQSYFDRD DVALKDFAKYFLHQSHEERGTCRLNLM KLQNPRG\GLIFLQDIKVNKRS*GCHTSSS GSRVSEIT*TSNCPYKVMHWAFAFCA FLGLPSKLN*ANSNVFPAKTWWLEMMG LLTSRLVGRDALTYSHSKPDCDDWESG LNAMECALHLGKNVNQSLLELH
445	8496	A	1410	118	256	MFCFFLKPIAEAPFKFDMELDDLPEK\K KELIFEETARFQPGYRS
446	8497	A	1411	457	839	AVGGFWGCPVELHMLVHITPLSHFKC GCFSNHVPLRI*QRGTLRL*MRKYTILF PSTACQHLKFIFQPTV*QFVIKPPGAHDV KHCSVLKYNSISDTAESDCQKKLSTNSC LELYPYFTDLFKYL

447	8498	A	1412	310	1784	RRRPRQPTMAAAVVGGRGPEVWSAGTL FDVGPRYTNLSYIRRGRLTTCVC SAYDN VNKVRVVAIKKISPFHQTYCQRTLREIK\
						ILLRFRHENNINGINDIIRAPTNEQMGCCI* *YRDLMETDLYKLLKTQHL\SNDDHIWYF LYQILRGLKYIHSANVLHRADLKPSNLL LNTVTCDLKICDFGLARVADPDHDTGF LTEYVATR WYRAPEIMLNSKGYTKSND IWSVGCILAEMLS*QGPFQKGHYLDQ L\NHIFGVFLGSPSQEDLNCIIF*KLGN Y LLSSHTSKIMVPLEHACPNADSKSSGTL LGQNCLTFNPHKRIEVEQALA/HTPYLE QYYDPSDAEPIAEAPIQVRPWKLDLPKE KLKGTNFKRLARFIQPGVQILNFVQTK GSEGLDVLRRHRCSSSOFLTPGPVFQCLG LSTLTPLPFGRGRFLGSCGFYGFSKISFS PGGFLGQPCCVHPLVTLRAVCTSVHL TAYCCFSH
448	8499	A	1413	2	294	GNKMAAPKGS LWVRTQLGLPPLLLLT ALAGGSGTASAEAFDSVLGDTASCHRA CQLTYPLHTYKVGVPVRSGLRPFPCSPFL GSPHVCRLWQPGC
449	8500	A	1414	366	1412	QRGTRWRRERGS LWVRTQLGLPPLLLLT MALAGGSGTASAEAFDSVLGDTASCHR ACQLTYPLHTYKKEELYACQRGCRFLS ICQFVDD\GIDLTRTKLECESACTEAYSQ SDEQYALPFLGCQNSACHFAELRQEQL YVPRWPKMAPTFFL*LLGEGSFWELT*W DSAQSFITSSWTFYLA\DDGKIVIFPV*S QKSQYAPHFGAREPTNFEENHLLSKMSS DLQMGKFHQAHQGFILKNEERDGLFKK PSILNSGWILTTTLVLSVMVLLWICCAT VATAVEQYVPSGEAGVTMGDLEFMNEQ KLNRYPASFSCLVRSKTE\DH EAGPS YLPKVNLAFFLEI
450	8501	B	1415	76	384	MSGWGVLSGRLNPAAREKDVERFFKGY GRIRDIDLKRGFGFVEFEDPRDADDAVY ELD GKELCSERV TIEHARARSRGGRG RYSDFSSRRPRNDRRNAPP*
451	8502	A	1416	3	229	
452	8503	A	1417	152	536	PDIMSGCRVFIGRLNPAAREKDVERFFK GYGRIRDIDLKRGFGFVEFEDPKDADDA VYELD GKELCSERV TIEHARARSRGGR GRGRYSDRFSSRRPRNDRRNAPPVRTEN RLIVENLSSRVSWQVC
453	8504	A	1418	771	1383	ILIEYKCGKCHVCTLSNIFSSSLVFFISCD CLCVFPPLLCLTQLSCVKDLKDFMRPAG EVTFA DAHRPKLNEGVEFASYGDLK NAIEKLSEKEINGRKKIKLIEGSKRHRSR RSRSRTRSSRSRSRSRSRSKSYRSRS RSRSRSRSDVPVLLSRSPRA*EEPRNRGS SSRSKSPASVDRQSRSRSRSRSDSGN
454	8505	A	1419	236	1377	PDIMSGCRVFIGRLNPAAREKDVERFFK GYGRIRDIDLKRGFGFVEFEDPRDADDA VYELD GKELCSERV TIEHARARSRGGR RGRYSDRFSSRRPRNDR/RVCEGWMAA LNNYW*G*PFKIQESLAVMILGPAV*SVL LFPR*PIVLDESI*VIEHKSIDGSH*NGL*Y LMA*TCPQLNTSAVIAFLPL*IRIFFLRNA PPVRTENRLIVENLSSRVSWQDLKDFMR QAGEVTFADAHRPKLNEGVEFASYGD LKNAIEKLSGKEINGRKKIKLIEGSKRHRS RSRSRTRSSRSRSRSRSRSKSYRSR SRSRSRSRKSRSVSRSSPCPEKS\QKRG S\SRASKSPSHLWNRPEVPGPRSRSQQLD QWPIKPVK

455	8506	A	142	1	809	VVGVSFCNSAWTEPGARSPRPAHNSQP SVTSSPHRTAPRPPPLQRREATAAGRR LSLVAAMTTASHLAGCAKNYHQGLKRP PINRQDQPWKLYGLLRFTLSHVLTNFDP RMMLAFERTFAKYFLHQFSMKEEGNHA EET**KLQNQRGWPEFLAQDIKETQTC DWEERGLNAME\CALHL\KNEVSSH LELHKTGQLDKNDPPFCVTFIETHYVNE QVKGHQRIWGDHVTNLARKMGSAPNLA WAKYLFHDHSTSLGDSNES
456	8507	A	1420	568	770	PDIMSGCRVFIGRLNPAAREKDVERFFK GYGRIRDIDLKRGFGFVEFEDPRDADDA VYELDGKELCSERVITIEHARARFTRLGR GRGRYSDRFNNSAELRNDRRNAPPVRP ENRLIVENLSSRVSWQDLKDFMRQAGE VTLPDITRLNLNEGVEFASMGDLRNLAI EKLSGRELNGRKIKLIERPAKRPQ*VQQS RSSDPGTQKSPGPRSRSPSPVANLNSR SKK/RRGSREPGSPEPSRSC*VGSSVP* ERFFKGYGRIRDIDLKRGFGFVEFEDPRD ADDAVYELDGKELCS
457	8508	A	1421	1	1317	
458	8509	A	1422	1	816	
459	8510	A	1423	19	2867	PPDPLPGLPCPPGGPPLPAFGGGWGGAR GSWHWSSRACSRRRRLVHAPRAPLLPR AAAEKAKRPAGARQMGLKARRAAGAA GGGGDGGGGGGGAANPAGGDAAGD EERKVGAPGDVEQVTLALGAGADKDG TLLEGGGRDEGQRRTPQGIGLLAKTPLS RPVKRNNAKYRRIQTLIYDALERPRGWA LLYHALVFLIVLGLILAVLITTFKEYET VSGDWLLETTAIFIFGAEFALRIWAAG CCCR
460	8511	A	1424	2	508	PDSSGPHRLRENPPMVAVSCPTKTNVKG PPGGKVGAGHAGYGVSEALERMFLSFPT VTKTYFPHFDL\SHGLCPRLKGHGKVA DALTNVAHVVDMPNGVVRP*SDLH AHKLVRVDPVNFKLLSHCLLVTLAAHL PAEFVTPAVPRPPWDKFPWLSVKHRCLT FKYR
461	8512	C	1425	257	358	MILLVFLPXHQVFLERXQSEILHHLNTL ADVL*
462	8513	A	1426	64	467	PAAWLPILVAARQLTVQMMQNPQILAA LQERLDGLVETPTGYIESLPRVVKRRVN ALKNLQVKCAQIEAKFYEEVHDLQRY AVLYQPLFDKRFEINAIYEPTEECEWK PDEEDEISEELKEKAKIEDEKDD
463	8514	A	1427	1	795	
464	8515	A	1428	1	836	
465	8516	A	1429	1	410	ARAKTYRMRSEPDDSDPFPDGPIMGC TGCQIDWKKGKNVTLKTIK\KKQKHM RGTVRTVTKTVSNDFFNFFAPPEVPES GDL\DDDAEAILAADFEIGHFLRERIIPRS VLYFTGEAIEDDDDDYDEEGEKS
466	8517	A	143	776	1115	APGVDPKPRQNE/PPVSTKNM*LGVD CLRGLRQEDHLNQEVPGCSEP*CHDQAT ALPAWATQQDPVSKKKKKKWWREARK GKPQ*GDGEKDSTTHSWL*RWRSLKSRI TVSL
467	8518	A	1430	502	765	LQKQKQANKQKIT*K*ACQMV/SNSSFP GKQKVDPTTKRCLVNGGLNLKIQ/LIQ ANF*KSRFIHLTVVPVTLISQVTLQLTMS PKTQ

468	8519	A	1431	58	1335	VTACAAPAAWLPILVADIWSSYNMADID NKEQSELDQDLDDVEVEEEETGEETKL KARQQLTVQMMQNPQILAAQLERLDGL VETPTGYIESLPVRVVKRRVNALKNLQV KCAQKETQFYEEVHDLERKYAVIYQPL FDKRFEIINAIYEPTEECEWKPDDEEIS EELKEKAKIEDEKKDEEKDPKGIP*IWAL TVFKNVDDLSDMVQEHDEPILKHLKDIK VKFSDAGQPMFVLEFHFEPNEYFTNE VLTKTLRMSSIPDSDPFFF*MEPEH*G CTGCQIDWKKGKNVTLKTIRKRPKPQG TWGQFRTVN*NQFPNDSFSNFFCPLKFL ESEDNRNDAAEAILAADFEIGHFLRERIIP RSVLYFTGEAIEDDDDDYDEEGEEADEE GEEEGDEENDPDYDPKKDQNPACCKQ Q
469	8520	A	1432	1	645	PLKRSDGCGNDGRPTRPPTRPDTTVFTSNL KQTLVLHLPVEKSAVTALWGKVNVD VGGKALGRLLVLPWDPKRSFQSPGE SVPTP*MAKEKVLGCLVVGGLASPGTTL KGHLCPHWSELALLTSLPRGIPEELQGS WGKRAGSCVAWAQSTFGQKNFNPKNL QGLPNQENWLAWCWLNALGPTSNHLSL AFLAGPISN
470	8521	A	1433	240	461	
471	8522	A	1434	2	206	
472	8523	A	1435	2940	3296	
473	8524	A	1436	189	736	ENKISSVFKADFLPPAPCSLPGLEVSVP KGKNTSGRESGFGWAIWMEGLVFSRLSP EYYELARPHLRDEEKSVCPCLAQEGPQ GADLLTKTELGP*ITRTCLTIVQKT*RK MVDKPTQRSVSNAAATRVCRTRGRSRWR DVCNFMRRYQSRVTQGLVAGELAQQ NLVSTSRLCIPSTGPL
474	8525	A	1437	3	452	
475	8526	A	1438	3	485	PTLLVPTDSERTHPWLLSPADK\TNVKG PGGKVGAAHVSRMCAEALERMFLSFPT TKTYFPHFDLSHGSAQV*GPRARKVAD ALVNAVAHVGRTPNALVPPLSDHAH KLARVGPSTFKLLKATCLAGLTLAAHL PARVQPLAVASLPWDKVSWASC
476	8527	A	1439	217	474	RTCASLSLHRPHGSHGHGQRGGFL*VF SSSFDSSDGWQVCSPGGQIPPTCPHHCC DPESPSSSGPPVPWHLPCAVQGPSPGGL
477	8528	A	144	1	419	
478	8529	A	1440	569	737	REHPVAGLQEHLLQGGSGQQDLRG*WA YFS/HR*SRKVPTSW*RRWKMVAPWAA RRV
479	8530	A	1441	520	1319	SWPQVPKTNKIEPRYSIINTSCGIRRLGP ALNTLIFS*KNASGPAGHSASIEGAPRG KGRGRAVARLAADRPPAPKIQLPSFV/LR STL*YPLLELELPRLLATHLPSNGS\SLK\ DLKWT\HSNYRASKEP\CIVIFVTTSPGR EWWICAPAAFLG\CGSRFSGSPLPE\SNP* FPV\TRGHHGRHGDYHRKLIGQTFEWVV VRRHGGRAIGPRLSRVTKAAGARPPAG AGEG/LDRVGFDLINAPSPPAKGVSAARR HVLALELPQLSK
480	8531	A	1442	2	239	RKTQTTRRGPLWAGPGG*RGGWWSR RLLLAAGFLGTHPGSTHPGLQQPRFKWD HTRSSQGAFTFFPRGGQEHSFTS
481	8532	A	1443	234	491	

482	8533	A	1444	126	890	PRSIGEGLGPSLLCGSGRARFSSGGMSGP RLVVLGSPSGA/GKSTLLKRLQEHSGNF GFSVSRESRALVEG\TRNPRPGEGRQK ITYFVTREVMQRDIAAGDFIEHAEF\SGN LYG\TSKVAVQAVQAL*PHRVCLDVADL QGVVRNIRPTDLRPNLHLLFSPPTATCW KQPGFRQPQOLETEGRAWLKAGLLLAQ ADMEEPAKEAPALFDVVHPLNDQPGT QA\YAEKEALSEEIKKAQRTGALRLAV CSR
483	8534	A	1445	978	1440	AGVGVGRGTTGRLVVRKFLTIFGNPLFL VAPPKPHSEWSQRLTY\RRRPSPYNTAIS NKTURLSPNPDGNRICLPFIPKKVGKAPQS LHVVCAPGRLRGVRAVRPKV/LL*RLSK TKKHVSRAYGWFHCVLKCGDR\RIKACF SLIGGSRKIRCGKSV
484	8535	B	1446	43	674	MDWTWSILFLVAATTGVHSQVHLVQSG AEVKKPGASVKVSCASFNSFDTYGFN WVRQAPGQGLEWMGWVSAFNGDTNYI RKLQGRVTMTTDSSTSTAYLELRSLKSD DSAIYYCAATNSDKYFWGQGLTVTVSA ASPTSPKVFLSLCSTQPDGNVVIACLVQ GFFPQEPLSVTWSESGQGV\TARNFPPSQ DAFGDLYTTSSQLTLPATH*
485	8536	A	1447	3	1637	SPGIFRGFQS\IRTEQRELTMESGLNWLL LVAVLKG\QCEVQILES\GGGQVQPGGSR TLSCAASGFIFS\NYVMTWVRQAPKGLE WVSSTAASGANTFYAESVKGRFTVSREN SENMMYLQMS\SLRDEDTGIYYCAKDGD V\PNLGVAVIVAGPGNVRPRKWFDAWG QGT\TVTVSSASPTSPKVFLSLCSTQPDG NVVIA\SLVQGGFFPQEPLSVTWSESGQG VTARNFPPSQ\MASGDLYTTSSQLTLPAT QCLAPKSVTCHVKHYTNPHPDVDG\PCP VPSTPPTP/CSLNSTYPISLMLPPTVTAPT GPSKDLFLGSEANLTCTLTGLEWASGCH FQSEGLQVGKSAVQGP\PEA*PSVAAYSV VQLSCRGWREAMEPLVRPFTCTAALPRS PRTRANRPPSSKSGKHISGPEGPPCCRPPS EELALNELVTLTCLAR\AFSPQGPCWVR WLQGSPKLPRKST*LG/PPAGAQARAP TTFAVT\SILGR/VQPEDWKKGDTFSCMA GHEALALAF\TQKTIDRLAGKPTHVNV VVMAEVDGTCY
486	8537	B	1448	113	249	XAAMTTASTSQVRQNYHQDSEAAINRQI NLGALRLLRLPVH\LLL*
487	8538	A	1449	846	1193	VMGPKPLPGIVPEFLKNWPRPSGLLIEFC PHWD\TTDMTSN/CLV*EENYSEQCLELL NPVGMDLILRGDCESYHGKPNRKLGS QHLSDQAALTGRLSSPCLMKRRRSASFR FTQAG
488	8539	A	145	3	1363	HASGITMAAGTLYTFSVNWRAFKALIA AQYSGAQVRVLSAPPHFHFQTN\RTPE VLRKFPAGKGP\AFEGDDGFCVFESNAIA YYV\SNEELRGSTPEAAQVVQWVSFAI DSDIVPPASTWVFPTLGUMHHNKQAT*E CKGRK*GRILGLV\DAYLKTEDFCWGAN VERLSGITV\ACTLLWLYKQVLEPSFRQ AFPNTNRWFLTCINQPP\AVLGGSETC VRR\APFGA*KVLQRPQPK\DTPRKEE GFTGKKKQKQ\PAERKEEKAAAPGPEI EEMDECEQALAAEPKAKDPFAHLPKSTF VLDEFKRRKYSNEDT\LSVALPYFWEHFDK DGWSLWYSEYRFPEELTQTFMSCNLITG MFQRLDKLRKN\AFASVILLGTNNSSIS GVWVFRGQELAFPLSPDWQVDYESYTW RKLDPGSEETQTLVREYFSWEGAFQHV KAFNQKGIFK

489	8540	A	1450	2	1087	<p>           AIEHCQSGDNPESTRRGFLQQLGRNPA            LVPHPGRTGHSQPPVTFHRHPSDCQRSP            AGRFKGGPSHRGQPPPFHKSPMTTARP            TSQVRQNYHQDSEAAINR/QINLELYA            SYVYLMSYFDRDVALKNFAKYFL            HQSHEERHEC*ENLMKACRTNEGWPNL            SFQDIKETKTCDWESGAECQWKALH            LEKNVESSHYWNLHKLATDKN*PPICV            DFI*DTFTLNEQ/V*KAIKRIWGDH/V*PK            LWRKMGSAPNLGFGELYF*QSTPWETV            IMKAKPRANFPNSRGVTFVLTKAVHAC            WGFLYLFYKLYQNIHLSSICTIPSNKEI            WYPGVVFEVLDESEIYPGYLPDSL SAVV            QF         </p>
490	8541	A	1451	24	452	<p>           APSPDAMG/HSLWGKVNVEDAGGETLG            RLLVVYPWTQRFFDSFGNLSASAIMGN            PKVKAHGKKVLTSLGDAIKHLDDLKGT            AQLSELHCDKLHVDPENFKLLGNVLT            LAJHFGKEFTPEVQASWQKMTGVASA            LSSRYH         </p>
491	8542	A	1452	41	542	<p>           APSRRPWGHFTEEDKATITSLWGKVN            VEDAGGRKPLGKAPWLSTPWTQRFFDS            FGNLSASAIHQTPKVKAHGKKVLT            LGDAITKHLDDLKGTFAQA*SELHCDK            LHVDPENFKLLGNVLTVLAIIPFAKE            FTPEGCRASWAERWVTWSWPVPCSSRY            H         </p>
492	8543	A	1453	1	1233	
493	8544	A	1454	233	884	<p>           ESPGVGCSARRGPRPSGPPPAAPGTPR            PHGIPLYTRAGHQ**GEIRRRPCTFISKFL            RPQGSASERQLPDLQARAWQELLGRPF            NKHHWFPR*SPCKGIGVTRCIRNP*KW            IPLIGPGQHSAILGLSSQELFRLLPSELTL            WG*PIEVSIRIGEDGSHLCACMKPSPA            GGSTQNTQNVQMVDWSRISCKEELLG            RTEFPFKTTNMMTVSG         </p>
494	8545	A	146	3	452	<p>           AVPGPGFGLSPTMVTLAELLVLLAALLA            TVSGYFVSIDAHAECEFFERVTSKMG            LIFEADGGFLDIDVVITLPR/RKIKPRL            KKKGGQ*TYRSFMDVTFKLCYNLRMSW            MNPNIHNHNLWLLTSIKFLITQFRSSLS            YLSSCIQSE         </p>
495	8546	A	1460	255	2154	<p>           LAEPEVATDSGQADLPAEGGDPRAEAS            CSVLHSPHAMADSRDAASDQMOMHWK            EQRAAQKYLGVDLGHKKADVLTGGA            GNPVGDKLVITVGRGPLLVQDVVFTD            EMAHFDREIRIPERVVHAKGAGAFGYFE            VTHDITKYSKAKVFEHIGKKTPIAVRFST            VAGESGSADTVRDPGRFAVKFYTEDGN            WDLVGNNTPIFFIRDPILVSFLFSDRGIPD            GHRHMNGYGSHTFKLVNANGEAVYCK            FHYKTDQGIKNLSVEDAARLSQEDPDYD            IRDLFNAIATGKYPSWTFYIQVMTFNQA            ETFPFNPFDLTKVWPHKDYPLIPVGKLV            LNRNPVNYFAEVEQIAFDPSNMPPGIEAS            PDKMLQGRFAYPDTHRLGPNYLHIP            VNCYPYRARVANYQRDGPMMQDNQGG            APNYYPNSFGAPEQQPSALEHSIQYSGEV            RRFNTANDDNVTQTSLYLTFRFMENIEK            VRAFVYNVLNEEQRKRLCENIAGHLKD            AQIFIQKAVKNFTEVHPDYGSHIQALLD            KYNAEKPKRSLAFIRVTRSSLEDSPVLD            VQMQASGFKIENPTFYSRLCENNFAISPG            ENEALTIEQMGSTEANCLLRNSVQLVAF            VIEITSRKSDIVERHKCAWT         </p>
496	8547	B	1461	129	321	<p>           XYWMLCSKAEGCCSGAPKAVGVVWST            TLIVLHAHRAVTLVVGHSSTGRDSSQVY            EDNWVPGWR*         </p>

497	8548	A	1462	70	2954	RMLITGSPALGSAIPGTPGRRGEALQLLG QSGTLPFRLLGISGLQASFGPCSEPIGL PILACLAPSSQSEGSPPGAGRGGGADW LSLKSPRTRGNRQICLLRVETHEPRPPAV FCTANRTLWLTAGIPATRCSTGRSSGPR RIEMRACTTSIQGNVQDKWKSNCCEVP DVECACTFLESCLKPGWLQSKQGAQRS GGDECLQSSHLWEFVRDLLSPEENCIL EWEDREQGIFRVVKSEALAKMWGQRKK
498	8549	A	1463	3	452	
499	8550	A	1464	2	521	PDSSGPHRLRENPPWCLSPADKTNVKA AWGKVGHAHVSRMCAEALERMFLSFPT TKTYPPHFDLSHGFAQV*GPRARKVAD ALD/TNAVANVGRTLPNALVRPLASDLHA HKLSSGTRFNFKA PKGHLPCLGEPWAA HLPRPSFNPWRLQRLPWGQSFLGFLKH RCLNLPNYR
500	8551	A	1465	154	678	PPLHLRDCFSPPGRALSPVGLYPYRVS PTWLKLTSDDVKEIYKLAACKGLTPS IQIGVILRDSHGWAQVRLGTGHDFTKI LKSKGLDPDLPEDLYHLIKKAVAVRKH LERNRKDKDAKFRLLIE/SRIHPFWLRY YKTKRVLPPNWEI*NHLTASALGRINL VWCTPSK
501	8552	A	1466	23	636	FSYLPPGPGSHGTWGLWELQFKMRFGVC RHLMEDSMDMDVSLR/PQNYLFSCELK ADKDDHFKVDNDENEHQLSLRTVSL GVFEITPPVLLWLKCGSGPVHISGQHLV AVEEDAESDEEEEDVKLLRISGKTKTF MATNGKEYKHYSSEKSLDNKYKTRTP GFQAFGFEDLHPWPLGSQAFYLSLRVTP PVFLVRLLED
502	8553	A	1467	3	618	AKD/ELHIVEQGHDIRGRSIKIT/LATLKM S/VQPTFS/LGGFEIQPTVV*GLKCVSGPC HISGQHLVA/VEEDAESDEEEENVKLLS ISERRSAPGVVSMVPQKKVKLAADDD DDDDEEDDDDDDDDDFDDEEAEEKAP VKKSIRDTPAKNAQKSNQNGKDSKPSST PRSKGQESFKKQEKTPKTPKGPSSVEDIK AKMQASIEKAH
503	8554	A	1468	1	1689	
504	8555	A	1469	3	535	DSVLRGCSLEQRSFISVRLLSYLSACRHP MEDSMDMDMSPLRPQNYLFGCELKAD KDYHFKVDNDENEHQLSLRTVSLGAGA KDELHIVEAEAMNYEGSPIKVTATLKM SVQPTVSLGGFEITPPVVLRLKCGSGPVH ISGQHLVVYRRKHQELQAMQMDCRAL STS*ASSAPRPS
505	8556	A	147	90	512	VQGLGVERVPLGSHRGWMGPPRPLLSP QERASCLLLLLPLVHVSATTPEPRELD DEDFRCVLQLSPEPQPDWPEALHRASAV QA*ISAGGSHLQSSFLIGRLRLKTVTVLL WPLFVLICVYLSVYLPFRLCLDTLSCVV
506	8557	A	1470	1	1025	SVLRGCSLEQRSFIYGRLLSYLSACRHPM EDSMDMDMSPLRPQNYLFGCELKADKD YHFKVDNDENEHQLSLRTVSLGAGAKD ELHIVEAEAMNYEGKSN*T*HLATLKMS VQPTVSL/GGAFEITPPVVLRLKCGSGPV HIKWTSTYVAVEGKMQKSRLKKEGRI VKLLKVYLKRSAPWKVGSKVSTEEK VKTLA*WKDDDRMNDEEDDDDEDD DDDFDDEEAEEKAPVKKSIRDTPAQKC SESQNGKRLQKPSFTPKNQKQESFQ ETRKLLKTPKGPISSVEDIKAKMQASIE KGGSLPKVEAKFINYVKNCSRMTDQEA IQDLWQWRKSL



507	8558	A	1471	3	490	SSGPTRLRENPPMVAVSCPTKTNVKAIA WGKVGHAHVSRMCAEALERMFLSFPT TKTYFFPHFDLEPRFLPRFKGHGKKVADA LTNAVAHVDDMPKRAVPPLSDLHAHKF RVGPGSTFKLLKPLALLG*TLGRPTSPSE FQPLAVARLPWQGSFLGFLKQPC
508	8559	A	1472	35	1288	
509	8560	A	1473	1	1641	
510	8561	A	1474	212	369	HPVTVYLLGYLLFQLPCGSEFSTSETHG HSADRLGAAFAVSRLEQDEYAPG
511	8562	A	1475	63	255	VLMFSSSHG*GYQSSRLQCKLQIVQLIQ DILLFFSF*IFE*LLS*LTPLKIFPLHQNGPS DFVS
512	8563	A	1476	169	391	
513	8564	A	1477	85	1534	KSSHCIKMGPQIFHKTSSELVLPATSCPSC PDQNEEDVSQTQYKECCGGWCSSHSIF AVWHFI*RPDAT*FGLEQRLTGLLASGP VSLREVV*LYSSLGTVISGK*KTSNVG*R GLALGSWAFSDKYSWFTMTWACISGP TKALTTGVGLIAFGQCDVIVAGGVEL MSDVPIRHSRKMIMLMDLNKAKSMGQ RLSLISKFRFNFLAPELPAVSEFSTSETMG HSADRLAAAFVSFLDQDEYALRSHSL SKKAQDEGLLSDVVPFKVPGKDTVTKD NGIRPSSLEQMAKLKPAFIKPYGTVTAA NSSF/LLTDGASAMLIMAEKALAMGYK PKAYL/RRDFMYVSQDPKDQLLGPTYA TPKVLEKAGLTMNDIDAFEFHEAFSGQI LANFKPMDSDWFAENYMG*KKPRFGL PPLWRRFNWVGSLSLGHPFGTGTGCR LVMTAANRLRKKGGQYGLVAACAPG GQGSATDYVEAYPK
514	8565	A	1478	2	359	
515	8566	A	1479	1	585	PRGVIGHGPLGTSFIGKYCGDYWVKAF LDRPSQPNQGPKNFEVVDLVDVNTPI DLMAIPVSAKKERKVSCMFIPDGRVSVS ARIDRKGFCEGDEISIHADFENTCSRIVVP KAAIVARHTYLANGQTKVLTQKLSSVR GNHISGTCASWRGKSLRVQKIRPSILGC NILRVEYSLLIYVSVPGSKQVFIKAL
516	8567	A	148	98	440	KDDTNTKCW*AWNCSSTRAHWKRTL LLGRLTMNIPHDSAIPLLAGHPT*MWA YVHQNPQTVMLTETLFMIATNWLHKC PQ**KE*CNGAVTEWSAALKQNKQLH VTPRV
517	8568	A	1480	218	1677	SEIFCKGVSSIWSFFLPPSFLTKTNSVP SWVMFKKIKSFVVFNDPGKGVTAVG EKVAIGRVNSGRCEVTRVKAVRIPAC RSGLKCLWMPGIPSRCKQTSIEYPRYEDT VFLAEDQPTGENEMVIMRPGNQYEYKFG FELPQGPLEHSFKGKYGCVDYWVKAF LDRPSQPTQETKKNFEVVDLVDVNTPD LMAIPVS/ALKKEKKVSCMFIPDGRVSVS ARIDRKGFCEGDEISIHADFENTCSRIVVP KAAIVARHTYLANGQTKVLTQKLSSVR GNHISGTCASWRGKSLRVQKIRPSILGC NILRVEYSLLIYVSVPGSKKVILDPLV* LGSRLGLSSRTSISMGRSTS/SLRMSWVD LNIPDTPEVPS/CILGCSFPEGSTVWESPT TPALLDDMDGSQNSPIMFYAPEFKFMP RTYTEVDPACIFNHQCAVSMWKKRSSFT LLVSFWPSLPWTVHFFQRLNSLCNGSVG PTLSPLTS
518	8569	B	1481	21	410	MPSKVRCSXVQVFDAMKTATAVAHCK RGNGLIKLEPVLLGKERFAGVDTRVR VKGGGHVAQIYAIRQSISKALVAYYQKY VDEASKKEIKDILIQYDRITLLVADPRCE SKKFGGPGARARYQKSYR*

519	8570	A	1482	1	456	MPS/KGPLQSVQVFGRRKKTATAVAH/CK RGNGLIKVNRPLEM/IEPRTLQYKVLGS GTGVSGWRTLGD RDVV ALESWGAGISN GMFRSCVGCQW AAGASSASRQERFAG VDIRVRVKG GGPWPRFMSKKFGGPGAR ARYQKSTDKPIVTQNSLV
520	8571	A	1483	172	661	LLEPVLLLGKERFAGVDIRVRVKG GGHV AQIYGESQELGAWRRWLWEGGLHSAPV PFNCVSFSQSVSPISKALVAYYQKWSE HGSFP*GRWVCGDQVKDSV*LSKSSLL FLPDVDEASKKEIKDILNQYDRTL VADP RRCESKKFGGPGARARYQKSYR
521	8572	A	1484	1	556	GAARVRLSSPRSDAMPSK/GVPLQSVQV FGRRKDSGQLLAHCKRAWGLIQG*TG GPLEMIEARARLQYK\LEPVLLLGKIER FAGVDIPCPV*KGGWSTWPQIYAIRQSI SQKPLVAYYPEM*VSMGPSHE/YVDEAF QRREIKDILHPSYDRNPAGLAGPFVRCEI SKKF\GGPGA\RARYQKSYR
522	8573	C	1485	127	435	MAASXNPEVLDITEETLHSRFLGVRNV ASVCLQIGYPTXASVPHSIINGYKRV LAL SVETDYTFPLAEKVKAFLADPSAFVAAA XLGCCHHSCSXCCCSPS*
523	8574	A	1486	1	689	KCFI/VGADNVASKQMQQIRMSFRGKAV C*WGKNTMMRKPIRGHLENNPALEKLL PHIRGNVGFVFTKEDLTEIRDMLLANKV PAAARAGAIAPCEVTVPAQNTGLGPEKT SFFQALGITT KISRG TIEILGVRNVASVCL QIGYPTVASVPHSIINGYKRV LALSVETD YTFPLAEKVKAFLADPSAF/VAAAP/VAA ATTAAPRAAAAPAKVEAKEESESEDED MGFGLFD
524	8575	A	1487	66	1104	RTAVMPREDRATWKSNYFLKIIQLDDY PKCFIVGADNVGSKQMQQIRIVPWGEAC VLMGQKTMNGPGPSEGHLENNPASEEL LPH*VRGHLGFCFTREDLTEIRDMLLAQ *GCQAAARCWCQLPPCEVTVPAQNTGL GPEKTSFFPGL*VSPTKNLPGGTH*KS*S YVQLIKTGDKMGSQTKAKAAEKM LKN LPPSPFGAGQPKQGVVRKNGKHPTNPESA *ISTRGKLCHSRFLGGCPANVAKCLSKI GYP\TVASSTPIIINGYKRVPGPCLWTP DYTFPLAEKVKAFLADPSCLCVLLPPV GVAATTACFALLQPPAKVEAKEESESESD EDMGFGLFD
525	8576	B	1488	98	264	XQVVCKKYRGFTIPEAFRGVHRYLSNAY AREEFASCPDDEEIELAYEQVAKALK*
526	8577	A	1489	155	1217	DPPSPVPAPPSSPRDGHFLVPDATMAEEQ PQV\ELFVKAGSDGAKIGNCPFSQRLFM VLWLKGVTFNVTVDTKRRTETVQKLC PGGQLPFLLYGTEVHPD\TTKIEEFLEAVL CPPR\YPKLAALNPEVQHSWGWDIFAK FFLPNIQEFQTPALN*QSGRRGFLESP*KV LDNYLTSPSPSEEVDETSC*KIEGVSQAR KF\LDGQRRPHPWLDLQTCCKPVTH*VQ VV\CKRK*PGNSPHPPKAFPGKCHRV*P*S KMPYAPGKNSPSHPVPDDEEIELRPM SK VAKALQISPSLGLPSTPSIFSTKAPGGFHI ATPMGHTPKLASGQILGDIEPAKGVVE EGMRERNNGPGSDF
527	8578	A	149	535	917	LVSPGKPPPEQQQLP*PRCQII*LVSPGKP PE/PTGTAPRSQPRLSVCPSTQDICRICH EGDEESPLITPCRCTGTLRFVHQSLHQ WIKSSDTRCCELCKYDFIMETKLKPLRK WEKLQMTPRRRKIFCSVTFRNRGSPV WFGLCMY
528	8579	A	1490	2	746	

529	8580	A	1491	217	1007	LNHNRLAVIMANLGCWMLVLFVATWS DLGLCKKRPKPGGWNTGGSRYPGQGS GGNRYPPQGGGGWGQPHGGGWGQPHG GGWGQPHGGGWGQPHGGGWGQGGGT HSQWNKPSKPKTNMKHMAGAATAGAV *GGLCSYSLGSAMSRPIHFGSDYEDRY YRENMHRYPNQVYRPMDEYSNQNNF VHDCVNITIKQHTVTTTTKGENFTETDV KMMERVVEQMCITQYERESQAYYQRGS SMGLFSSPPVILLISFLIFLIVG
530	8581	A	1492	32	487	SRRHGSSLWGKVNVEDAGGETLGRLLV VYPWTQRFDFSFGNLSSASAJMGNPKVK AHGKKVLTSLGDAIKHLDLKGTFQALS ELHCDKLHVDPENFKLLGNVLTVLAIH FGKEFTPEVQASW/QEDGDWSGQCPVLQ IPLSSLPMMQSFQG
531	8582	A	1493	41	597	APSPRRPWVISQRRTKATITSLWGKVN VEDAGGETLGRLLVYPWTQRFDFS FGNLSSASAIHGQPPKVQGTWSKKVLT LGEMP*KHLDDLKGHLKPPEVNLHC KPAMWDPENFKAPGEMLLVTRFWAIPF SAKEFHPWRLAGLPQKDG*LGVGQCP CSFQIPLKPLGP*IQSFQG
532	8583	A	1494	1	478	DTRFLERLRSLSSLVPAWMGHFTEEDK ATITSLWGKVNVEDAGGETLGRLLV VYPMDPRGFFDFSFGNLSSASAIHGQTPK VKATRAKKVLTSLGKMPIKHLGLIFGT FCPSLS*TCTC*QACMWD*GTFKLPG MLLVTRFWAIPFSAKEFHP
533	8584	A	1495	3	370	SVCVRAHESVVKSEDFSLPAYMDRRDH PLPEVAHVHLSASQKALKEKEKASWSS LSMDEKVELYRIKFESFAEMNRGSNE WKTVVGGAMFFIGFTALVIMWQKHGYL ASKWDYEKNEWKK
534	8585	A	1496	24	305	
535	8586	A	1497	197	745	LASEQFSTSVVCTSSMKVFVKSEDFSLPT YMESAVTHPLAGRWPVHKAPCSAQPRR PLKEKEKALLGAAFSMG*GKFELLFALK FKEEALLED*TRGLRTELKGTGLFGPVPL FPSIGFSPRLVIHVQKHYVLTAPFPQSF *TKSWVGPSRTRKMLGQ*R*TPIQGLAS KWDYEKNEWKK
536	8587	C	1498	78	281	MELSNNHQLSMLVELSMLVWDANLL GWGKSCELTGPSWSLVRSTSRHSRKKGS SWHLPAKLCSTC*
537	8588	A	1499	302	687	
538	8589	C	15	354	416	MKESPGGELPQTGKKPVFLF*
539	8590	A	150	116	830	EGFPGRSLSGGLCCRLRRRFPIDGYRPW RRRRWSCCPGVRPVRMRSHKSWIESTL TKRECVYIIPSSKDPYRCLPGCQICQQLV RCFCGRVLVKQHAWFTASPAMKYLDVKL GDHFNQAIIEWSVEKHTEQSPTDAYGVI NFQGGSHSYRAKYVRLSYDNQPLVILQ LTVKEWQMELPKLVISVHGGMQKFELH PRIKQLL*KGLIKA AVTTGALILTGRNT GVGKHGGDAPQRTC

540	8591	A	1500	1	1622	MSKPKCLVILVGIQKSSQMPQFPPAGSE RRRGIRQWEMGVVGGEMGVWVPPGVQ GSPPQAHRRRLGSREQLFAPPLKEKSHIPP WGYSRENYPIPEPGPNRGPVTEVWGSPG PTVQWGWEGLEALSPALINQAQKDPE VRLGAMVRVSVDTHTPPPLTPRQSGPLSA LEELGVSFPTLSYLTPEPQLLGEHQIKGSF PGRSTALLLKEVLLRMHSGVICGSDVH YWEYLS/RFGNFIVKKPMVLGHEASGT RKSGIIGKSTLKPGRVIAIEPGCSPEEN* WNSCQDG/RRYNLSPSIFFCATPPDDGNL CRFYKHNAAFICYKLPDNTFEEGALIEP LSVGIHACRRGGVTLGNKVLVCGSWAN RGWVTLLVAKAMGAAQVVVTDLSATR LSKAKEIGADLVLQISKESPEIARKVEG LLGCKPEVTIECTGAEASIQAGIYATRS GTLVLVGLGSEMTTVPLLAHAIREVDIK GVFRYCNTWPVAISMLASKSV/DMSKPL VTHRVSWSRKVLEAFETFKGLGLKIML KCDPSDQNL
541	8592	A	1501	1	804	
542	8593	A	1502	178	1093	TFLLPACLLAALLPLRHHVRGRAVWQ SILNEGVG*ALKDLINEACWGY*APAG VNLQSMGHRPTVSLVQLTLRV*GASTP YRC\DRNLGHGR*NLTSMKILKMAAG NED/ISLTLRAEDNAGYLGR*YFEGTKPG RKFSDEYEMKMLMDLVEQLGIPEQEYSC VVKMPSGEYARICRESQPILGDAVVISC AKDGSSENFASGELGNETUKLSQTSNVD KEEEA\PIKMNEPVQPNFCH*GYLNFFT KATPLSSTVDTPVCSADGTPLVGRSIA GYGDHLKYLLGLPKDPRIEESLGHS
543	8594	A	1503	32	487	SRRHGSSLWGKVNVEDAGGETLGRLLV VYPWTQRFFDSFGNLSASAIMGNPKVK AHGKKVLTSLGDAIKHLDLKGTFQALS ELHCDKLHVDPENFKLLGNVLVTVAIH FGKEFTPEVQASW/QEDGDWSGQCPVLQ IPLSSLPMMQSFQG
544	8595	A	1504	1	591	NFALEAKNSARAISLVPDAHGVISQRT KATNTSLWGK\VNVEDAGGETLGRLLV VYPWTQRFFDQLLANLSSASAHGQPPK VQGHMAKKVLTFLGEMPIKHLDDLKGH LLPKPEVNCTVDKPMWDPENFKAPGE MLLVTLFWAIPFSGKEFTP*RLQASWAE RWVTWS\GQCPCSFQIPLKPLGP*IQSFQ G
545	8596	A	1505	49	273	
546	8597	A	1506	81	720	LFKAPEPHVEED\DDDELDSKLNYPKPPQ KSLKELQEMDKDDESLIKYKKTLLGDG PVVTDPKAPNVVVTRLTLVCEAPGPI TMDLTWKIWKALKKGNHLVLKGRFVNI RSSKFHFPKLNRG*LLFRA*NYVQHTYR TG\VKVDKATFMVGSYGPRPEEYEF/LS LPVEEASQRAWLARRHVTTKSPFTDDD KQDHLSWEWNLSIKKEWTE
547	8598	A	1507	5	290	FNLTHIESRPSRLKK/DEYE/FFTHLDKRS LPALTNIIKILRHDIGATVHELSDKKKD TVPWFPRTIQELDRFANQILSYGAELDAD HPVSPWPVG
548	8599	A	1508	68	312	
549	8600	A	1509	317	916	TSSPPSSLCFLSFSDICHELLGHVPLFSDR SFAQFSQEIGLASLGAPDEYIEKLATYW FTVEFGLCKQGDSIKAYGAGLLSSFGEL QYCLSEKPKLLPLELEKTGIQNYTVEFQ PLYVVAESINDAKEKVGNSAATIPRPFV RYDPYTQRIEGLDNTQQAHDLG*FHLTV EIGILCSALQKNKVKAMDRMVVCQAVE
550	8601	A	151	770	950	CHSEHRNYKNNHHSIKVRPRWRIHFHS NVIS*SLVHISKVFVAYKCNQYFHIRKFR

						SVT
551	8602	A	1510	389	1881	NLQPHVLFANLPVPEALKSQRPHSRGAS MSTAVLENPGLGRKLSDFGQVETSYNED NCNQKWVPISLDPHKLKERKLGALGPKY CALFEENDVNLTWHIESVRPSRLKXDEYG FFPPFGIKRSLPALTNIIKILRHDIGATVH ELSRDKKKDTPVWFPRTIQELDRFANQI LSYGSNGWDAADHPGFKDPVYRARRKQ FADIAYNRYRHGQPIPRVEYMEEKKTWG TVFKTLKSLYKTHACYEYNHIFALLEKY CASHEDNIPQLAEDVSQFLAQTCTGFRLRP VAGLLSSRDFLGDLAFRVFHCTQYIRHG SKPMYTPPEPDICHELLGHVPLFSDRSFAQ FSQEIGLASLGAPDESIEKLAPIYWFTVEF GLCKQGDSIKAYGAGLLSSFGEFYCLS EKP KLLPL/ESLEKTAIQNYTVTEFQPLY YLAESFNDAQGEI*GTFAATIPRPF SVR HDPHTPQRIGGSWDNTQQLKILA/DSI*Q *IGIPFAVALQNIK
552	8603	A	1511	1	191	MQK*ITAWAPAPMKIKIIASPERKYSVWI GGSIWQQLST/FQQMWISKQEYDESGPSI VHRKCF
553	8604	A	1512	1	360	SGACPAFLVDRNLRHHETTFLNIMKCDV DIRKDLANTVLSGGVTMYPGIADRMQ KEITAL/APPSTLRFRIAPP/ERRKYSVWI GGASILASLSTFQQ/MCLGKQEYDESGPSI VQRKCF
554	8605	A	1513	13	1277	INPPPLSRRCQLSHSVLPPLRRRVSLPVA MEEIEAALVIDNGSGMCKAGFAGDDAP RAVFPSIVGRPRHQGV MVGHGPRTD SY VGDEA/QRSKRGILTLYPIEHGIVTNWD DMEKIWHHTFYNELRVAPEKHVPLALT EAPLNPKANREKMTQ/ILCFETFNTPGHV PWPIQAVLSL*SLWAQPIGIVMDSGDGV THTVPILRGATLLHAILRLGPGIARDL TDYLMKILTNERGYSFTTHGPSGKTFRNI KGEACATSPLD FEQVEMGTAASSSSLEK SYELPDGQVITIGNERFRCPEALFQPSFLG MESCGIHETTFSIMKCDVDIRKDLAN TALS GGTTMDPGIADKIAEGRSTALAAP AP*KIRUIAPP/ERKYSVWIGGSILASLST FPARFWISKQEYDESGPSIVHRKCF
555	8606	B	1514	93	366	XTSVVRPFAKLVRPPVQVYGIEGRYATA LYSVLNPYVKRSIKVKS LNDITAKERFSP LTTNINLLAENGRLSNTQGVVSAFSTM MSVHRGE*
556	8607	A	1515	1	785	FRQRARAPLRVFLFPLGFDLQPPGRRW AAPAVISGLSRKVRCFSTSVVRHFAKL GPSIVQVYGIEGRYATALYSAASKQNK E/QLEKELLRVAQNPEGNPKVAASVLPN /YVKRSIKSEKALNDITSKKRRFSPPSTT QPWIKFALPE/NGSD*SKYPQGSPFPALFP THDEVSHPRIGGY PCTVDLWHLLEG SQ TPPGI*KLSLKS LP*VKGQVLKLEAKTDP SILGGMIVRIGE KYVDMSVKTKIQKLG RAMREIV
557	8608	A	1516	1	2199	

558	8609	A	1517	9	1618	PALCPTLSSGTSARFRGKNQFSGGLPQIT LSPLAQPCGRLAAMYSNVIGTVTSGKRK VYLLSLLDSFGDCVTCHGSPVDICTAK PRDIPMNPNCIYRSPEKKATEDEGSIEQK IPEATNNRVRVWELSKANSRFLPLSYS APGQNSKD*H*LTFFCSPLSIFQGFLLWT KVIGACNDTLQQLMEVFKFADTISEKTF* SRSHFFFAKLNCRLYRKANKSSKLVSA NRLFQDKSLTFNETYQDISELVYGAKLR PLDFK\ENAEQ\SR\AAINKWVSNKTEG RIHRCSPFSGRPFNELTVLGGFNNTIYFQ GACWK\SKFSPENTRKELFYKADGESCA SASMDVTREGKFRYSGAWLEGT/QVLV VCPFKGDDITMVILPKP*EGAWAKVEK VELTPEVLAKSGWD*FWREMMMLVHMP RFRINEDGLQV*REQLQRHGPLSDLFSP* KSPKL/LPGIVAEGRDDLYVSDAFHKAF LEVNEEGSEAAASTAVVIAGRSLNPNRV TFQGGQLFPGFLLREVPLNTIYLHGAEL ANPCV
559	8610	A	1518	2	363	ELDTLCDLYEP*PSPSIIFINTRRK/VDWLT EKM HARDFTVSAMHGDMQKERVIM REFRSGSSRVLITDLRIGRGGFRGRKG VAINMVTEEDKRTLRIETFYNTSIEEMP LNADLI
560	8611	A	1519	201	648	GPCGHGRVFPLPSLAAHMDA*GLLLRDR VSSVHMLKRLSFLT*ARGIDVQQVSLVIN YDLPTNRENYIHR*A*IWNTPLPLHTWPS LGLKLLIFLIPFLVFQNGRGRFRGRKGVA INMVTEEDKRTLRIETFYNTSIEEMPLN VADLI
561	8612	A	152	1	253	SKLAAEMTANRLAESLLALSQQEELADF PKDYLLSQSQD\EGDNDGERKHHKLEA ISSLDGKNRRKLAEMSDVILMM*EFVVA
562	8613	A	1520	49	1720	GSTISSASQDSRSRDNGLDGIEPEGVIESN WNEIVDSFDDMNLSLRLGIYAYGFKEK PSAIQQRAILPCIKGETSQSOKTLWTVPD LGRVASGW*CPSHISQGSNLLVHPSLA FDPCCPLVHALDT*VSFKEVVL*PAYICI YSHVSSPAWCAILDELITGPCF*SGSHCV TVLIGKVCEP*NAWFIGCLTSLT*DLNI PKGMLFTTFNS*FICLGYDVIAQAQSGTG KTATFAISILQQIQ\KVVMA\GDYMGAS VCHACIRGAPTCVAEVQKL\QMEAPHIHR GVPPGRVF*YALPEDTLPKYIKMFVLD EAD\EMLSRGFKGQIYGHQKAQAAPPR VVLLSATMPFDVLEVTKKFMRGPPFRIL VQKGELT\LEGIRQFY\NVEPEEFNLDT LCDLYENLDHHPRPVIFHQPPGGKVDWP HPRRMHAADF\TLYSAMHWRFWTQKER RT*L*REFRSWLLARIFDTQLDLLGQRA LMCQQV\SLVIQTYDPFPTRGKLLIHRV GSRVDRFGRKGVPINMLTE/EKTKRNLE DIETFYNTSIEEMPLNVA
563	8614	A	1521	3	607	FCPRGQEFGEKNLLSPRRPWVISQRRRT KAT\TSLWGK\VKCGKNAGKEETPGKGS LVVL/HPWTPRGSFEQLWQTCPSALCPS MGNPQSQGTMAKKVLTSLGRCP*STLD\ DLKGHLLPKPEVNLHLLTSLHVGS*RTF KLPGEMLLVTLFWAIPFSAKEFHPLKVA GFPQKQDG*LGVGQCPCSFQIPLKPLGP* IQ\SFQG
564	8615	A	1522	23	437	KTPGKGS\LVVL/HPWTQRFDSFGNLS\ SASAHHGQPPKSKAHGKVLTS\GDAL KHLLDLKGTF\AQSELHCDKLHVDPEN FKLLGNV\LVTLAIHFGKEFTPEVQASW QKMVTCSGQCPVLQIPLSLLPMIQSFQG

565	8616	A	1523	23	249	APSPDAMGHFTEEDKATITSLWGKVNVE DAGGETLGRLLVVPWTQRFFDSFGNLS SASAIMGNPKVKAHGKKVLTSLGDAIKH LDDLKGTFAQLE*TCPLPLPSWATPKSR HMARRC
566	8617	A	1524	46	379	SQTPMGHFTEEDKATITSLWGKGEMW KKCWKEKTPKGSLVVL/HPWTPRGSA DSFGKPVPLPSAHPWATPKVKAPWPRC LTSLGEMPIKHLGLIFKGTFCPSLK*TCT C
567	8618	A	1525	21	457	NPRVRGALTMELSESVOQGFQMLADPR SFDSNAFTLLRAAFQSLDDAQADEAVL DNKNSLEILLGSGRSLPHITDVSWRLEY QIKTNQLHRMYRPAYLVTLSVQNTDPS YPEISSSCSMEQLQDLGGKLDASKSLG KSTQL
568	8619	A	1526	1	455	
569	8620	A	1527	3	468	
570	8621	A	1528	50	895	THASDGALTMELSESVOQGFQMLADPR SFDSNAFTLLRAAFQSLDDAQADEAVL DHPDLKHIDPVVLKHC\HAAA\ATYLE AGKHRA\DKSTL\STYL\EDCKILTEKRIEL FFAREYQ\NNKNSLE\LLGKY*GRSLPS YNRVFSWALWIIQVKDQSTFHRM\YRP AYLGD\KVVQNTGIPPS\YPRELVFSCQP WNQL\QDL\VG\ETLKDASKKPWKRA\TSV VTLGK\VNRSPSSRRKTQKPLPF\SWNH RLCRAGCPFSVEKNFSLLNLYPFIHFGHF KNV
571	8622	A	1529	1404	1586	ENESRFSDRNQASAGLYLSDSL*QWIV GNGHATDLWQNCSTSSSGNVHHCFS SSP NGSG
572	8623	A	153	1	759	
573	8624	A	1530	187	701	AELAARMLLLLLSIIVLHVAALVLLFVST IVSQWIVGNGHATDLWQNCSTSSSGNV HHCFS SSPNEWLQSCSRGTMDPVDSSFS ILSLFLFFCQLFTLTGGGRFYITGIFILA GLCVMSAAAIYTVRHPEWNLNSGYAS* RFA*ILAWVAFPLALLSGVIYVILRKRE
574	8625	A	1531	1	485	
575	8626	A	1532	2	459	
576	8627	B	1533	1	2784	MAAMAVGGAGGSRVSSGRDLNCVPEIA DTLGAVAKQGDFLCMPVFHPRFKREFI QEPAKNRPGPQTRSDLLSGRALEIGAD LPSNHVIDRWLGEPIKAAILPTSIFLTNKK GFPVLSKMHQRLIFRLKLEVQFIITGTN HHSEKEFCSYLQYLEYLSQNRPPNAYE LFAKGYEDYLQSPLOPLMDNLESQTYEV FEKDIKYSQYQQAIIYKCLLDVPEEEK DTNVQVLMVLGAGRPLVNASLRAAKQ AD
577	8628	A	1534	2	607	
578	8629	A	1535	1	207	
579	8630	A	1536	232	755	LSCCADDGV SIPGEYTSFLAPMFSPKLYN KVRACRKKARDLKAQFEMPIVVR LHNS NQLSAPQPCSTFSHPNRDPMIDNNRYCT LEFPVEVNTVLQCFAGYFETVLYQDITL SIRPETHSPGMFSWFPILFPIKQPIVREG QTICVRFWRCSNSKKGSSHQSMKTSGQG VRN

580	8631	A	1537	35	2271	LCDWLLVSRNPGVDSARRKMAAMAVG GAGGSRVSSGRDLNCVPEIADTLGAVAK QGFDFLCMPVFHPRFKREFIQEPAKNRP GPQTRSDLLSGRDWNTLIVGKLSPWD FVPDASKVÆKIRRNSEGGPCLQELNFGA YLGPAFLPLNQEDNTNLARVLTNQIH TGHDFYMFWRRIHLKKPEDLRDDIEN APTTHTEEYSGEEKTWMWWHNFRTLCD YSKRIAVALEIGADLPNSHVIDRWLGEPI KAAILPTSIFLTNKKGFPVLSKMHQRLIF RLKLEVQFIITGTHHSEKEFCSYLQYL EYLSQNRPPPNAYELFAKGYEDYLQSP QPLMDNLESQTYEVFEKDPKYSQYQQA IYKCLDRVPEEEKDTNVQVLMVLGAG RGPLVNASLRAAKQADRGIKLYAVEKN PNAVVTLENWQFEEWGSQVTVVSSDM REWWAPEKADIIVSELLGLIC*PIELSP*V PWIGAQHFP*KMIGVKHPPGSYTSFLAPI SSSKLYNEVRACREKDRDPEAQFEMPVY VRLHNFRQLSAPQPCFTFSVHRNRDPMI DNNRYACTLGFVPEVNTVLHGFAGYFET VLYQDITLSIRPETHSPGMFSWFIPLPY* GSPLTVRERAKPFCVRFWRCRQFPRKV WVWSGGC*QAPVCCLIQKPPKGPPQYT HWPLLSPCRAPSVEALGKPAFRFLPPCS NSKVPVTSYGAVIPPWPIQRREHFQSCFP CPYIQGGPRDYN
581	8632	A	1538	137	303	
582	8633	A	1539	122	385	YPALEHILKAQAIQSRGCDSCLPSPAPW DHPGPTTPSPGRRAAADPWHLSPIDGRE HLR*VPVLPVTPSPPTLGHVWVTDPSGV GG
583	8634	A	154	1	921	
584	8635	B	1540	277	480	GTGHFYGRTPSDTNCQEYTHRKLCQIK SKADLVLMKNSKSLTRVIRNILAPQDQN HQQNPLNSQFLQ*
585	8636	A	1541	32	1386	VLLGPKAERTNSRRNYQRRDYFSAPRSI TSNQSAKSSSRGVYSAYQAPDIHECCH FRSASFFLDKMATPAVPVSAPPATPTPVP AAVPASAPASVPAPTPAPAAAAPVAAAAP ASSSDPAAASATTAAPGQTPASQAQAPA QTPAPALPGPALPGPFPGGRVVRHLHPVI LASIVDASYERRNEGACPS*SGTLFGKLV DKHSVEVTNACFSVPHNESEDEVAVDM EFAKNMYETGIKKVSPNKLILGWYAT GHDITEHSLVLIHEYYSREAPNPIHLTVAD TSLPGTGRMSIKAIYVSTLMGIPLGRT/L WGVMTPLTVKYAYYDTERIRRLTLIM KITCF*PPTRVIWTSQVDLQEGGGIQLR NPGMPLSTSVANMPEGCTCLGKVSADN TIRKVGHFLMSLVNQVPENRKPMTFET MLNSNINDLFMVITYLANLTQSRNALNE ELVNL
586	8637	A	1542	1	3399	
587	8638	A	1543	1	3126	
588	8639	A	1544	115	348	
589	8640	A	1545	1	513	FHFTPLFRDGETYVV/MLDSTLPRSQYAY ILPQVSFTAVGYHKKHITLIFNPARKLPEQ DIAQGSYIALPLTLLVLLAGYNHDKLIPL LLQLTSRLQGVALGQAASDNSGPEDA KRQAKKQKTRRTLRLQEEFQLMWCLVP WRGTLGIHLFSSLPFASEILLETTATCIHY
590	8641	A	1546	1	888	
591	8642	A	1547	1	4710	



592	8643	A	1548	37	3683	LGLGLSMLVGQAGPLGPAVVTAAVVL LLSGVGPAHGSSEDIVVCGGFFVKSDVEI NYSLEIKLYTKHGTLYQTDCAPNNGY FMIPLYDKGDFILKIEPPLGWSFEPTTVEL HVDGVSDICTKGGDINFVFTGFSVNGKV LSKGQPLGPAGVQVSLRNTGTAEKIQAT ATQPPGGKFAFFKVLPGDYEILATHPTW ALKEASTTVSVTNSNANAASPLIVAGYN VSGSVRSDGEPMKGVKFLFSSSLVTKED A
593	8644	A	1549	1	474	
594	8645	A	155	1	424	
595	8646	A	1550	1	1554	
596	8647	A	1551	87	736	FIMDNLSSEEIQRAHQITDESLESTRRI GLAIESQDAGIKTITMLDEQKEQLNRJE EAWAQIHKDMRAETEKTLTELNKCCGLC VCPCNRTKELLSLGQGFIKTTWGRWWE KTSPWQC*YSKQPGP/VWTNGQLQQPTT GAASGGYIKRITNDAREDEMEENLTQVG SILGNLKDMLNIGNEIDAQNPQIKRITD KADTNRRFVLDYCPMEQK
597	8648	A	1552	99	362	
598	8649	A	1553	184	360	
599	8650	A	1554	3	403	
600	8651	A	1555	1	872	EFGTRWDFSMVAFADLDLRAGSDLKAL RGLVETAAHLGYSVVAINHIVDFKEKK QEIEKPVAVSELFITLPIVQKSRPIKILT RLQIMLSDHSPAKVLKNTLKRGA*DA VGAGFPKAEKAFFILLCTHLDVDLVCIT VTEKLPFYFKRPPINVAIDRGLAFDLALIP LLSKDSTMRRYTISPVLQF*CKSCKGKN VIISACKKRPF*KIRGPILTWANLGLPV WGFSESERQGGFCPPNCRAALLHGETR KTAFGIISTVKKPRPSEGDEDCLPASKKA KCEG
601	8652	A	1556	46	584	SRPWVISQRRRLSTSLWCKVNVEID AGGETLGRLLVVYPWTQRFDSFONLS SASAIHGQTPKVKAHGKKVLTFLGEMPL KHLDDLQGAFFQA*SELALVDKPFAM WDP*GTSKLPGEILLVTRFGQSLFRQKNF TPGGARVSWGRKMGDLELASALVPSRL PLSSLAHECRAFGQ
602	8653	A	1557	1476	1747	GNFNSRLSKTQLCAHCLYPHTFGRQR WVDHLRLGVRD*PGQHGETPSLLKNNN NNTKISWAWWHEPVIPAUMGEAEAGES LEP/GRRRLQ
603	8654	A	1558	1	507	
604	8655	B	1559	15	400	MSMLRLQKRLASSVLRCGKKKVWLDPN ETNEIANANSRQQIRKLIKDGLIRKPTV HSRARCRKNTLARRKVRHMGIGKRKGT ANARMPEKVTWMRRMEILRHLLTRYRE CETINRAMHLLNLKVMs*
605	8656	A	156	3	1371	INIVVIGHVDSGKSTTTGHLIYKCGGIDK RTIEKFEKEAAEMGKGSFKYAWVLDKL KAERERGITIDISLWKFETSKYYVTIIDAP GHRDFIKNMITGTSQADCAVLIVAAAGVG EFEAGISKNGQTRAEHALLAYTLGVKQLI VGVTKMDSTEPYPYSQKRYEIVKEVSTY IKKIGYNPDVAFVPISGWNGDNMLEPS ANMPWFGWKVTRKDGNASGTTLEA LDCILPPTRPDKPLGLPLQDVYKIGGIGT VPVGRVETGVLPKGMVVTFGPVNVTTE VKSVMHHEALGEALPGDNVGFNVKNV SVKDVRRGNVAGDSKNDPPMEAAGFPA QVILNHPGQISAGYAPVLDCHTAHIACK FAELKEKIDRRSGKKLEDGPKFLKSGDA AIVDMVPGKPMCVESFSDYPLGCFVR DMRQTVAVGVKAVDKKAAGAKVTK

						SAQKAQKAK
606	8657	A	1560	15	710	INPPPPAFLSLLRPQCSMLRLQKRLASVS VLRICGKKKVWLDNETNEIANANSRQQ NRKLIKDGILIRKPV*RVHSRARCRCNTL VARRKGTAH/CGIGKREGYSPMPRMP/TR KVTWMKENEGFWRLASERYR*NLKKI RFATLLSQALYPEG*RGNVVSKTRRVFH GNTFHKLEGRQRPKKAPWLDQA*G/RR RS*DQKGKHGKRAREERLPGQRKEEQRL YSKEEETKK
607	8658	A	1562	2	419	MASGRARCTSNLRNWVVEQVESGQFPG VCWDDTAKTMFRIPWKHAGWAIFKGG YKEGDTGGPAVWKTRLCALNKSSEFK EVPERGRMDVAEPYKVYQLLPPGIVSGQ PGTQKVPSKRQHSSVFSEKKEEDAJAN CTL
608	8659	A	1563	20	431	
609	8660	A	1564	107	400	
610	8661	A	1565	191	353	PHSSTTCPPAPMLVF*KRDPPSLGPHDAL VPPCPVPVEILRSSAKTRCGKKASS
611	8662	A	1566	553	690	SRRRFPMSGTKLV*G*GEMESLEEQAQ GKGTECALHPVDLFSSPGPLFNSLCLSK PMAPPTL
612	8663	A	1567	2406	4031	GGRAGDGPLSATCTYAPSLWLDEGSPCL PGLVTEADRRGTLGTEYPPQAEVAEGK GPDEGPMACSLRNSSSTNKEASYHPGFL VVLLPEFDWYLKSPNMYQVGTGECRC TGVHSSPEVPGLTGPNWPPWGSHTGVTQ RMASGRARCTRKLNRNWVVEQVESGQF PGVCWDDTAKTMFRIPWKHAGKQDFRE DQDAAFFKAWAIFKGYKEGDTGGPAV WKTSLCCALNKSFDKEVPERGRMDVA EPYKVYQLLPPGILASGHVPGTQKVPSKRQ HSSVSSEVRKEEKDAMQNCTLSPSVLQD SLNNEEVEGSGGAVHSDIGSSSSSSSPE TTRKITDTTEAPFQGDQVRSLEFLALPEP D*SLLLTFIYNGRVVGEAQVQSLDCRLV AEPGSESSMEQVLFPPKPGPLEPTQRLLS QLRRGILVASTPQGLFRCSAFCPIPIFWGI APQAPPVPGPHLLPSNECVELFRTAYFC RDLVRYFQGLGPPPKFIQVTLNFWEEHS GSSHTPQNLITVKMEQAFARYLLEQTPE QQAAILSLV
613	8664	C	1568	77	325	MSLIQEALHLVLTDPDAPAGDDPKYRE WHHFLVNMKGNDISNGTVLSDYXCAA PPKAPSHVPQFSVACIIDFSSSCPPWHG*
614	8665	A	1569	60	287	
615	8666	A	157	1	92	TSHQSHCSTFLTVSKW**LKTAYCLYHY HS

616	8667	A	1570	3	703	VEFFSSQRAELYATPLTPAPGPNNGGIPGW TLWLALPRPGNLRKGPGLSLQEVDEQP QHPLHVITYAGAAV/DDELGKVLTPQTQVK NRPTISISWDGLD/SKGKLYTLVLTDPDA PKQKDPKYRE\WHHFLGWSTLKQMT SATGTVLS\DYVGLGGLPKGTGLHRYV WL\VEQ\DRPLK\CDEPHPSATRS\GDHR GKIQRWASLPVKK**SSRAPGGWAPCYP QPEVGMNQCAPKL
617	8668	A	1571	1749	2411	APSCLVSEHSAPGPQRELPOPLLTQAYE QILGITC\GSCPAQGWGAWSSDAVPQLL ARRPPLPHGLPACGEWGRGELGVKPSGL PSHAGPAWGHQVRTVCATAHPQDCISPE GAVEEEIVGG*GC\TEGQSQRVLQIWP'S QGVSSLSALVPLNMFTELLIEYYEKIFST P\EAPGEHGLAPWEQGSRAAPLQEA VPR TQATGLTKPTLPPSPLMAARRRL
618	8669	A	1575	1	254	
619	8670	A	1576	3	308	
620	8671	A	1577	1	380	IPTPLIGNFGPRGPRIRHERPQKRDDRREP SSFGRRRQ*DGTL\LC\RRCGS\KA\YHLQ KSTCGKCGYPAKRKRKYNSAKAKRR NTTGTGRMRHLKIVYRRFRAWDFREGT TPKPK*GSLLOHSSSS
621	8672	A	1578	41	544	APSPRRPWGHFTEED\KAT\TSLWGK\VN VEDAGGETPGKGS\LVVYPWTQRFDS FGNLSSAF\AHHGQTPKVKAHGK\KVL\T SLGDAIKVHLDLKGTFQA*VNLHL*QS CNVDP\ENFQAPGEMLLVTR/VLAIFG K\EFTPGGCKASWAEDG*LAVGQWPCSS RYH
622	8673	A	1579	1207	1369	
623	8674	A	158	232	552	SLH*PRMATQRKHLVKDFNPYITCYICK GYLIKPTTVTECLHTFCKTCIVQHFEDSN DCPRCGNQVHETNPLEMLRLDNTLEIIF KLVPGLREQELERESEFWKENKPQNGQ DDTFKSLTNRK
624	8675	A	1580	1	1716	TCIAAVKMEGPLSVFGDRSTGETIRSQN VMAAASIANIVKSSLGPVGLDKMLVDDI GDVTITNDGATILKLEVEHPAAKVLC LADLQDKEVGDGTTSVVIAAELLKNAD ELVKQKIHPTSVISGYRLACKEAVRYINE NLIVNTDELGRDCLINAAKTSMSSKIIGIN GDFFANMVVDVLAIKYTDIRGQPRYPV NSVNILKAHGRSQMESMLISGYALNCVV GSQGMPPKRVNAK\ACLD\FSLQTKMKL GVQVVITDPEKLDQIRQRES\ITKRIQKI LATGANVILTGGIDDMCLKYFVEAGA MAVRRVLKRDLKRIAKASGATILSTLAN VEG*ERFEGAMWDQAEV\VQERICDDE LILIKSTKARTSASHISRPIDSMCDemer SL\HDA\LCVVKRVLES\SVVPRIGGAV EAALSIY\LENY\ATSMGSREQLAIAEFA RSLSGYSPIPLAVNAAQDSTDLVGKN*R/ RLFHNEAPGLTPE\RK\NLKWIGLDLSNG K\PRDNKQAGVFEP/TPIVKVKSLKFATE AAIT\LRIDDLIKLHPRK*R*\KHGSYEDA VHSGALND
625	8676	A	1581	1	513	PRVRNLSREWLCDRHLREKMFSSVAHL ARANPFDTPHLQLVHDGLGDLRSSSPGP TGQPRRPRNLAAA\VEEQYSCDYGSGR FFILCGLGGHSCGTTHT\ALVPLDLVKCR MKVADPQKYKGIFNG\FSVTLKEDGVRG LAKGWAPTFL\GYSMQGLLQVLAIFYEVF KVLVY

626	8677	A	1582	2	1296	ALCEPQPFQGGSGCVIALGRKMFSSVAHL ARANPFNTPHLQLVHDGLDLRSSSPGP TGKPRRPSQ/HMAAAPVEEQYSCDYGSG RFFILCGLGGIISCGTTHTALVPLDLVK/C RMQVDPQKYKGIFNGFSVTLKEDGVAR GLAKGWAPTFLGYSMQGLCKFGFYEVF KSLAYSNMLGEENTYL*RTSLYLAASAS AEFFADIALAPMEAAKVRIQTQPGYANT *EGISFPKCIKEEGLTSILQGGLLPLWMR QIPYTMN*SSPCLERTVEALYKFVVPK PRRE*FKRQSRLVVTIW*QVTIARVFCAN CFSPLPEFLG*PVL D*GKKVSQCFLWVLQ RDLGFK/GVWKGLFARIIWMIGTLTALQ WFIYYSVKGYFR/LPRP PPPPEMQESLKK KLGVNSVVRIKANCGNLNLLVDPVFEESA KGTFIYLTV
627	8678	A	1583	127	433	RPLESWIGLVRCNICRSPIAEAVFRKLVT DQNI SKNWRVDSAAATSGYEIGNPPDYRG QSCMKRHGIPMSHVARQDLNRKSNRV KTCKAKIELLSYDPQKQL
628	8679	A	1584	2	535	
629	8680	A	1585	551	1299	PADPPRPSYYRHRTPPQAHWSRLRRSRL RRRGSHTRCPVGVGAGLRRRAGARLAV RLRASACGTPRCLGASARGKMAEQATK SVLFVCLGNICRSPIAEAVFRKLVTQNI SKN/WEGRQRGNFRWVIDSGAVSDWNV GRSPDPRAV/SCLR NHGIHTAHKARQIT KEVFPTFDYILCMDESNLRDLNRKSNR VKTCKS*KFELPWEL*SPQKQLIIEDVYY GE*LWTLETVYQQ/CVRICCR AFLAEKAH
630	8681	A	1586	1	1239	
631	8682	A	1587	298	408	
632	8683	C	1588	92	244	MRCEIILVLIPIVYFYFYNKLLCSRLXXXX XGGAVLKNPWGGQSLPGLAR**
633	8684	A	1589	33	191	RDDPRVRPPNSHT*PQQEPGL*LIKCTSP PQAPAPRTVHGPFYFYMRLIKMF
634	8685	A	159	445	673	RECLH*PRMATQRKHLVIDFNAYITCYIC KGYLIKPTTVTECLHT/FCRCMEAFPSLL LA
635	8686	A	1590	3	1285	
636	8687	A	1591	3	3469	QPGHTIYLLPTVVICNLLPCELDIFYVKGM PINGTLKPGKEAALHTADTSQNIELGVSL ENFPLCKELLIPPGTQNYMVRMRLYDVN RRQLNLTIRIVCRAEGSLKIFISAPYWLIN KTGLPLIFRQDNAKTDAAGQFEEHELAR SLSPLLFCYADKEQPNLCTMRIGRGIHPE GMPGWCQGFSLDGGSGVRALKVIQQGN RPGLIYNIGIDVKKGRGRYIDTCMVIFAP RYLLDNKSSHKLAF AQREFARGQGT A
637	8688	C	1592	398	655	MMFPLAFSLPLKNAFHISVCRVCPGYTG FAKRALTALNLDTSLSANCCNTPPAEXP NVHNPCYMGLSKPARXSKLGSMCKGSS XH*
638	8689	A	1593	1	930	
639	8690	A	1594	1	134	

640	8691	A	1595	3	2455	HASVCPAVGVQRLCLFPCVSLQALFMGS PLRFDGRFFLVTGAGAGLGRAYALAF ERGA LVVNDLGGDFKGVGKGSAAADK VVEI RRRGGKAVANYDSVEEGDKVVK TALDAFGRIDVVVNNAGILR/DINSFARIS DEDWDIHRVHLRGSFQVTPAAWEHMK KQKYGRSIMITSSASGIYGNFGQANYSA KLGLGLANSLAIEGRKSNHWN TIAPNA GSRMTQTVMPEDLVEALKPKYVAPLVL WLCHQSCEENGGLFEVGAGRIGKLWE RTLGAIVRQKNHPMTPEAVKANWKKIC DFENASKPQSIQESTGSIIEVLSKTDSEGG VSANYTSRATSTATSGFAGAIGQKLPPFS YAYTELEAIMYALGVGASIKDPKDLKFI YEGSSDFSCLPFGVHIGQKSMGGGLA EIPGLSINFVKVLHGEQYLELYKPLPRAG KLKCEAVVADVLDKGSVVIIMDVYSY SEKELICHNQFSLFLVSGSGFGGKRTSDK VKVAVAI PNRPDAVLTDTTSLNQAA LY RLSGDWNPLHIDPNFASLAGFDKPIHGA LCTFGIFCQGVLLQQFCR*MDVVQGFKG N*RARFAKPVYPGANFYQT*ECWKEIG NRNSFFKPKVQGNLETLVISKWHMWDL GTQHSGYFSLRTPSEGPSFRVPLVFEEM GRRLLKDIGPEVVVKVNAVFWEWHITKG GNINGAKWTIDLKSGSWEKLYQGPS/KK GAADTTIH/ILSDEDF/LWEVVLGQA*PSR KAFFSGPG*RPQGGTSM*AQKLSDGFL KDYAKLLKGTPTLLIKMESIKIPPHQIC LDYSAKS
641	8692	A	1596	2	289	
642	8693	A	1597	1	397	
643	8694	A	1598	1	410	STMISPVLLFSSFLCHVAIAGRTCPKPDD LPFSTVVPLKTFYEPGEEITYSCKPGYVS RGGMRKFICPLTGLWPINTLKCTPRVCP FAGNLRKMGAVRLITDFLNYSPTRFSFL LTWGFILEWALDSAKCIEGG
644	8695	A	1599	19	1215	CQCDSTMIFSRCSLSSFLCHVAIAGRT CPKPDLLPFSTVVPLKTFYEPGEEITYSC KPGYVSRGGIEESLSCPLATGTVPFNTSG NVTPRVCPFAGIFRKMGGRTLITTF*NYP NTDPVFSLLTLGF*FWNGALDFWPSCTG GKGKWSPELPGLVAPIICPPSP/TGFA TLHVLLRPFRLGNNSPPIGDTAVFECLAH NMAMFGWNTITCTTHGKLDLNYPECR GSKMPFPHPQDPDNGIW*TYPCQNPNTL FTRVKAPHLGLPHDGIFSGMGPKEKNEC *PQTWKGKPGSWPLAPSW*KPSLVKGTPV KKRPTVVYPQGERVKDSREKFKEWECL HG**KFLSFCKNKEKKCSYTEDAQCIDG TIEVPKCFK\EHSSLAFWKT\DAS\DVKPC
645	8696	A	16	3	145	SSSSSDFAGQTL*STQTVQN*FKKVLKPG RLYPVPIATMGIKEPLIS
646	8697	A	160	22	849	WIERDLLNCIKRLK/PTTNMMLNDEIVNIS PKIIKIRQGYLLSMILFGIVQKOLTRKLM QGRETGIEIRKEVKL*KRKRI*ISICRCH E*IW*VPCIKVMQKAFYDIPAKNMENEIL KKQCHFKDPSSA*REKMR LICFEELYPEN KITKEERDRI/RTTISKLLLPKPHLQP*NP RQVSLMLN*QANF*EFICIFQKSKIVKAI L*NGQRLKFLNIKT CYKAIEIMKVL IWH KDKKLD*WNSIQVSKVDPRVYHHSFE KGDIEV*WGKGCSFQ
647	8698	A	1600	1	282	

648	8699	A	1601	1	453	EFGSQQLGRREEWQRQGSPPVSRRLSARR GPQAPGTRLPRRHPARAFPAATMPKRKV SSAEGAA*LEPNRSARLSAKPPAKGEA KPKKAAAKDKSSDKKIVQTKGKRGAKG KQVAEVANQETKEDLPAENGETKTEESP ASDEAGEKEAKSD
649	8700	A	1602	146	824	TWGKGDPKKPRGKMSSYAFFVQTCREE HKKKHPDASVNFSEFSKKCSERWKT SA*R/EKGKFEDMAKA\DKARYEREMK TYIPPQRGRQKRKFDSQLHPRGPPSGLL SSSCSEYRPKIK\GEHP\GL\SIGDVAKKLG RDVGINTAAD\DKQPYEKK\AAKLKEY EKDIAAYRAKGKPDAAKKGIVVKAES KKKKEEEEDEEEG\DEEEDEEEDEEDEE DEEEDER
650	8701	A	1603	1	223	
651	8702	A	1604	1	400	FADD/PSDK/FFTSNNGMQFSTGHNDND KFEGNCAEQDGSQWWMNKHAGHLNG VYYQGGTYSKASTPNGYDNGHIWATWK TRWYSMKKTTMKIIPFNRLTIGEGQQHH LGGAKQVRPEHPAETEDSLYPEDDL
652	8703	A	1605	18	365	NILIKVYFNSKNDFKIFHELFFKQNYMKN MYKSVINVIDIFMKNKFQ/SEKYPII/DKGS LNK*MLTILALKSNTTVRLJRDATFYVVR EHIINVSSKRARYWVCVGF*ASC*QPPL F
653	8704	A	1606	212	1645	HYKARSSGHSDDMSWSLHARNLILYFY ALLFLSSTCVAYVATRDNCCILYERFGC YCPITTCGIADFLSTYQTRVD*DLQSLAED ILHQVENKTSIEVKQLIKAIQLATYNPDES SKPNMIDAATLKSRLMLEIMKYEASVIL THDSSIRYLQEI*FQIIQKIVNLAKKVAQ LEAQCQEPCKDTVQIHDITGKDCQDIA KGAKQSGLYFIKPLKANQQFLVYCEIDG SGNGWTVFQKRLDGSVDFKKNWIPYK EGFGHLSPTGTTEFLAGEMRKIHFD*GTQ SAIPYGI*GVGTGKTWEWARNQYCRSM PLFKVVHEVDK\YRFTYAYFAGGDAEDA FDGYDFGDDPSDKFFHIPIMAMQFTYLG TMDNDKV*KANCA*/QQGWDPGWWDG NKCCHAGHSSMGVLFQTQGWALYFQKAS YLPNGLWIMGIIWATWK\TRWVFR*RK TMKIIPFNRLTIGEGQQHHLGGSQTGLE TF
654	8705	A	1607	2	529	GTVAACGACYWLLGLMAVRASFENNCE IGCFAKLTNTYCLVAIGGSENFYSVFEGE LSDTIPVVHASIAGCRIIGRMVCGTEEIL ADVLKVEVFRQTVADQVLVGSYCVFSN QGGLVHPKTSIEDQDELSSLLQVPLVAG TVNRGSEVIAAGMVVNDWCAFCGLDTT STELSVVE
655	8706	A	1608	18	889	GVQGTVAACGACYWLLGLMAVRASFE NNCEIGCFAKLTNTYCLVAIGGSENFYS VFEGELSDTIPVVHASIAGCRNIGRMV GNRHGLLVPNNTDQELQHISATGLP RHSGRFRAGWKERFLSLWGNFFNHLAID YVGLGSNQD\LDKGRQEEISGQMLFKGW EVFRQTVADQVLVES\YCVFSNPGRAW VPSRPFQ*RPRNELSSISFKVPLVAGTC* TKGSEVICLLGMGEMNWCAFCGPOTP NPAQSCQVVEECLQS*NEAPALAPIANR ACGNSLIDSLT
656	8707	A	1609	1	248	GPLIWEPASPEPPPLPWGKPRMQ/SG*Y G*TP*IPKIRFPKPPPPPPQALEPQQKGP N*AHP*EPTPAKKYSPQRVQKVPK

657	8708	A	161	796	1381	SLTSDKRQWALGSMDFKFKHWICH/PIK MLHLGVGPKGLSVTQQFSSQN*FPVCAF QSSQYIPLPAQKLMYSQ*PVQNRCSNQ TIPVAHPMSGHQVSHHRPANNPGKEEV PGQEGKN*NKDVNNF*TGQPWTKGNLEI STWPERNLILALKVPIKAELKRSWASSN CKQT*LRHPQCDDVFISMKEQSMEKCRN F
658	8709	A	1610	290	1414	NKRHPSRVYMSLPQAEKVQAMYIWDG TGEGLRCKTRTLDSEPKVEELPEWNFD GSSTLQSEGFTVNMYLVPAAMFRDPFR KDPNKLVLCEVFRYNNRPAETNLRHT CKRIMDMVSNQHPWFGMEQVEYTLMG TDGHPFGWPSKGFPQPGQYLLGVGAG DRSLGRDIRAEHYRACFYAGTRIPGTK AGVSPLQWEFQIGPEGIKQGG/HIFWV ARFILHRVCEDLGVIATFDP*/RPLGN WNGA/GCHTNFSTKAMRKENGLKYIEK AI*KLTNR\HKSHIRAYDPKRGLDNARRL TGFHETSNINDFSVGVANRSASIRIPRTV GQEKKGYFEDRRPSANCDPFSVTEALI RTCLLNETGDEFFQYKN
659	8710	A	1612	129	1182	
660	8711	A	1613	1	353	FGTRSFDSRSEAEAAKNALNGIRFDPEIP QTLRLEFAKANTKMAKNKLVGTPNPSTP LPNTVPQFIAREPYELTVPALYPSSPEVW APYPLYPALAPALPPAFTYPAASLHAQ ETL
661	8712	A	1614	129	1238	APPSPPSSGCSPPQQLSALTPGTRVLAPSF ASFLPSFFLPPLAPALPLQVALPGPDCLG SPLPARALPRLSLALPESPAAAVADSPRE PQPNPSPTATAPAPAPAPQPAAPARGSPG ARGRLQWASAPSPAPQPCPARRGRTG KMNNGGKAEKENTPSEANLQEEEVRTL FVSGPLDIPRELKLYLLFRPFKGYEGLIK LTSKQPVGFVSFDSRSEAEAAKNALNGI RFDPEIPQTLRLEFAKANTKMAKNKLVG TPNPSTPLPNTVPQFIAREPYELTVPALY PSISPEVWAPYPLPRRELGACFYLPFG/S FTYPASLAWPRCAGSLPRLLRAGSPVS SAEYITLQQWLEGGRTIALWLYG
662	8713	A	1615	129	1143	APPSPPSSGCSPPQQLSALTPGTRVLAPSF ASFLPSFFLPPLAPALPLQVALPGPDCLG SPLPARALPRLSLALPESPAAAVADSPRE PQPNPSPTATAPAPAPAPQPAAPARGSPG ARGRLQWASAPSPAPQPCPARRGRTG KMNNGGKAEKENTPSEANLQEEEVRTL FVSGPLDIPRELKLYLLFRPFKGYEGLS* KLTSKQL*GFVSFDSRSEAEAAKNALNGI RFDPEIPQTLRLEFAKANTKMAKNKLV GTPNPSTPLPNTVPQFIAREPYELTVPAL YPSISPEVWAPYPLYPALGPALPPAPAF TYPASLRCGPNPVEKEIQDSV
663	8714	A	1616	1	669	
664	8715	A	1617	267	1057	GRTMMFGAKRRQEEWEKVRKPEDPEEC PEEVYDPRSLYERLQEQKDRKQELRGT VSNCKNMVIRGLDEDETTFLDEVSRQQ ELIEKQPKRAELERT*RNTEITSRRLEFSQ ENKKEVEKLTCE/VL*KPRTKFSQANVL GQEL*SMKSSESQHQCEKT*NRTPED*Q ESRALILAKSLGNNLPLSGFFHPLAPSAA SMYRHPPRPGWPTLGAATPSPASDSEGTI QCHRKDCSPPCFRNTNFTLRGPLSFRRSLH REAPPQG

665	8716	A	1618	1	641	DTRFLERLRLSISSYVQTPMGHFEEDKA TITSLWCKVNVEDAGGETLGRLLVVYP WTQRFDSFGNLSASAIMGNPKVKAH GKKVLTSGRLP*KHLDDLKGVTFAQA* SELH/CDKAALLDPENFKLPGEILLVTR FGQHFHRAKNFTPEGCAISWQERWVT WSWPVPCSSRLPLKLNCP*MQSFSRIRLL FLQAITNNKSISAKRSP
666	8717	A	1619	1	194	
667	8718	A	162	3	1116	LNQWQEQTGNPERTHRPSEGSGLLQDP GDFSNTLSAPTAEEVEKGDPLPKIPPLEEL KETHLTHKDSHKLKIKGWKKAFLANGH QKQTGEAILIPDKTKFKATAVKRDEGD YIMVKGLVPQENITILNTYASNTEAPKFI KQLLIDLRNEIDSNIVVGNFNTPTAIDR SSKPKVNKETMDLNYTLEQMDLTDIYRT FHPTTAEYTFYSTVHETISKIDHMIGHKM SINTFKKIEIMSSLTLDHSGIKLKINSERNL QNHANTWKLNNLLNEHWVKNEIKMEI IQLFELNNNNDDTTYQNLWD TAKVVLRG KFIALNAYIKKTERAKKTIYSHTSGI*KQE QTKPKPSRRKEIKIRAELEIETKKT
668	8719	A	1620	98	1136	ASDAFHLSAPGLRLGSRSAARPATMTE QAISFAKDFLAGGIAAAISKTA VAPIERV KLLLQVQHASKQIAADKQYK GIVDCIV RIPKGAGGVLSFLEGQPLPTVIRYFP/TQA FNFRPFKD/KSYKQIFPGGAWDKHTQF/W R*FGGANWASGVAAGADHPSCFVYPLD FARTGLGKGRWKSQAQASFRGLGDCL VKIHQVQTASRGYQGLPVSPFTATIIYP AAAYYGVYDTAKGHASPTPSNTHILLS RMNRARTVTARGAVGCPNPKTVRRIR MIDAIRGAKGADIMYTG/TLVDC*RKNLS EDEGGQRPFKGCVVQTLRGHGGRPSV LVPVRTSSRRVI
669	8720	A	1621	4	101	VQWNDFGSLQNPFGVSPFFWLSLNNL GFKGSSSRPGFPLKF**KP/EVFRVNP DGF PPFAP*FGPPGPPKSWGFPF*PPPGVSPFF WLSLNNLGFKG
670	8721	A	1622	3	1728	GDRTDGVWWLGLSRRYAIPFNSLEPSS LGSCPLSIGTHKVALHALELTITDIQCGK AFNSSSSFRYHERHTHTGEKPYECKQCGK AFRSASLLQTHGRHTHTGEKPYACEKCGK PFSNFSFFQIHERMHREKPYECKGYGK TFSLPSLFHRHERHTHTGGKTYECKQCGR SFCSSSFRYHGRHTHTGEKPYECKQCGK AFRSASQLQIHGRHTHTGEKPYECKQCGK AFGSASHLQMHGRHTHTGEKPYECKQCG KSFGWASRLQMHGRHTHTGEKPYCKQC GKAFGWPSNLRHGRHTHTGEKPYCKNQ CGKKWKDQNIIEYEQNPRRNRSLIEGN VNEIKEDSHCGETFTQVPDDRNLNFQKK ASPEAKSCDNFVCGEVGIGNSSFNMINR GDIGHKAYEYQDYAPKPYCKQPPKAF RYHPSFRTQERNHTGEKPYACEKCGKTF ISHSGIRRRMVMHSGDGPYKSSFLRSH KVPGHGRRFAMNPTLLNKEDERGKKNV VTREHLDRMKNSCIVCNMGHSNTEIDV NVVMGNRYERLERDARMTIRKRRKRYSD IRFRIMGRYTVRVEVLTA VNSE
671	8722	A	1623	1637	5763	KPGNGACAGREWCDGGGAAWNWRDP GLPVGDSGVWDRVLELLGPRSPRPLDV GGPAAAGTPGVLSRPCSTAALAPKPFCA APRPQPDAPACAGATGGSCADFD SGVDF VRRRSSGLWGPQPLSPVKNYTEMFQDP VAFKDVAVNFTQEEWALLDISQKNLYR EVMLDTFWNLTSIGKKWKDQNIIEYEQ NPRRNRFSVTEEVNEIKEDSHCGETFT VPDDRNLNFQKKKASLK*NHVTALCVQK



					LA*VTHL
672	8723	A	1624	2	656 APTPTGQRVVRATPAQSAPVRLRRRSYD VNNPIPSNLKSEAKKAAKILREFTEITSR NGPDKINPGSTVIKAK\GLANSCLLNQS PGSLVTFQRGGPGVLVARLPDGK\WSSP FS\ALGIAGFG\GGFEIGI*GIQTLVILEF/D DPCC*EAFKGGNLTGGNLTVAVGPLG RNLEGNVALRSSAAVFTYCKSRGLFAGV SLEGSLIERKETNRKFYC
673	8724	A	1625	141	1307 FHVNNPIPSNLKSEAKKAAKILREFTEITS RNGPDKIIPAHVIAKAKGLAILSVIKAGFL VTARGGSGIVVARLPDGKWSAPSAGIA GLGGGFEIGI/EDTFTATYSL*ALPWLPSS VECHSSFLRLPSA*HIFLHPFTVNLMSD LVIIILNYDRAVEAFKGGNLTGGNLTVA VGPLGRNLEGNVALRSSAAVFTYCKSR GLFAGVSLEGSLIERKETNRKFYCQDIR AYDILFGDTPRPAQEDLYENLDSFTEK YENEGQRINARKAAREQRKSSAKELPPK PLSRPQQSSAPVQLNSGSQSNRNEYKLY PGLSSYHERVGNFYQPIDLTALYSFEGQ QPGDLNFQAGDRITVISKTDSHFDWWEG KLRGQTGIFPANYVTMN
674	8725	A	1626	167	401
675	8726	A	1627	133	312 VRVGEKLLKPCFWPPEANPD*CYLHLWI LDSQTKSKPVLTS*P*PPNGILGTSVCFC FY
676	8727	A	1628	1759	1967 SGCKPLTFPPP*SDSPVKEDPCR/SPPSHP RLPPHSLPALPFTPNPPPKIYTAVSRIW EMKDRCNPI
677	8728	A	1629	167	1378 GNTLVTNMTEFWLISAPGEKTCCQQTWE KLHAATSKNNNLAVTSKFNIPDFKGWA RWDVLVGLSDELAALGKIL*EGSWLKE SRLQLHGLDVLEDSKDKVQENLLANGS GLGLPYITKVPSGDMAKYPIKQSLKNISE IIAKGVTQIDNDLKSASAYNNLKGNLQ NLERKNAGSLTRSLAEIVKKDDFVLD EYLVTLVVVPKLNHNDWIKQYETLAE MVVPRSSNVLSEDDQSYLCNVTLFR/RR AVDDFQDTKPGENKFIVRDFQYNEEEM KADKK\EMDRASTDKKKQFGPLVRWL KVNFEAFIAWIVKALRVFVESVLRYG LPVNLVQHMIFHRNNNPFKPLRQVLHESY IHLDSAA\AIIDAPMDIPGLNLSQEQYY PYVYYKIDCNLLKFK
678	8729	A	163	41	1133 HRTYKTKIHLKKQKQSTQATKSRMNAV VPHISILTLNVNGLNVPLKRYRVA*WIRI YQQTICCLQETHLTPNTKDSHLKLVKG WKKVAFHANGHQKQAGVAILTSDKTNF KATAVKKDKKEGHYIMVKGLDQQENITIL NIYAPNTGAPKFMKQLLIDVRNEIDSNTII AGDFNTPLTALDRSSIQKVNKETMDLNY TLEQMDLKDHYRTLHPTTAEYTIYSTVH GTFKIDYMTGHKTSLNKFKKSEIISSSL DHSGIKLEIDSKRNHQNANTWKLNNLL LNEHWVKNKIKMEIKTF/FELNDNNGTA YQNLWDTAKAVLRGKFTALNAYIKKYE RAQTDNLRSHLKELEKQQTCKPSSRRKK K

679	8730	A	1630	569	1050	PLESRRLARSSGGWAGITGTPMNIFTGPD PGPSERSAQPRVWDSTCCLKSNCWFRK VKATTPPMSSMMRQIPRMYMNA/WEKV QVVTEGRQHTNEGDHEHDDAQEDDDG WSQEGTFKGFIFLPLNLCIDAHQRDQGP NQTCNPSTLGGRRGGQITRPGDRDH
680	8731	A	1631	1	595	
681	8732	A	1632	2	1121	ARGCGRSSRSRSHRCLPFPPPPSRRPA SLGPERRPGSSRAAPAASRSLSGLSRASG TASCGRPPACPPARSPLPAGPWAARAMG TDSRAAKALLARARTLHLQTGNLLNWG RLRKKCPSTHSEELHDCIQKTLNEWSSQI NPDLVREFPDDLVECTVSHAVEKINPDER EEMKVS AKLFIVESNSISSSTRKVQLTW ACSVLGS/VAQLGFLWIHWLSPPI*KDGG LIFPWEHLQPYWEGI*KNLVQRQKGLLP* GTSDDLKQLEQLYQWAQVKPNSNQVN LASCCVMPPDLTAFKQFDIQLLTNDP KELAFWKASFQGRLFQGKAFADISSGTE WGAAGVLLRYSVIVKSRGIKSKGYILQA KRRGS
682	8733	B	1633	63	458	SLENTVSTAISKAQNGAPSWG GYPSIHA AYQLPGTVKPLPAAVQSVQVQPSYAGG VKSLSSAEHNALLHSPGSLTPPHKSNVS AMEELVEKVTGKVN KKEERPPEKEKSS LAKAASPIAKENKDFPKTEE*
683	8734	A	1634	3	2303	EMEGKEDAQKVLKCMYCGHSFESLQDL SVHMIKTKHYQKVPLKEPVPAITKL VPS TKKRALQDLAPPCSP EPAGMAAEVALSE SAKDQKAANPYVTPNNRYGYQNGASYT WQFEARKAQILKCMECGSSHDTLQELTA HMMVTGHFLKVTTASAKKGKQLVLDPV VEEKIQSIPLPPTTHTRLPASSIKKQPDSP AGSTTSEEKKEPEKEKPPVAGDAEKIKE DSEDSLEKFEPSTLYPYLREEDLDDSPKG GLDILKSLENTVSTVINKAQNGAPSWG G YPSIHAAYQLPGTVKPLPAAVQSVQVQT SYAGGVKSLSSAEHNALLHSPGSLTPPH KSNVSAMEELVEKVTGKVN KKEERPPE KEKSSLAKAASPIAKENKDFPKTEE VSG KPQKKGPEAETWEAKKEGPLDVHTPNG TEPLKAKVTNGCNNLGIIMDHSPSPFIN PLSALQSIMNTHLGKVS KPVSPSLDPLA MLYKISNSMLDKPVYPATPVKQADAID RYYYENS DQPIDLTKSKNKPLVSSVADS VASPLRESALMDISDMVKNLTGRLTPKS STPSTVSEKSDADGSSFEALDELSPVHK RKGRQSNWNPQHLLILQAQFASSISETT EGKYIMSDLG PQERVHISKFTGLSMTTI SHWLANVEVTS LRRTGGVTKFLKEPGTQ GHPVFFACND CASQFRTASTYISHLETHL GFSKDL SKLPLNQIQRQQNV*KVLTN KTLGPLGATEEDLGSTFQCKLCNRTFAK QARSQTAP
684	8735	A	1635	133	500	YNTVNYKSHPEGQSMCWSMPVITATFG NPRRVDQPLRSGVQDQPGQH GKIPSLK IQKLAGHGAGCL*SQLLGRLRKENCLN/ SPGGGGCSEPSRHCIPAWAIA*DTI*KIK K*KPPKMRN
685	8736	B	1636	1568	1588	MGDQQLYKTNHVAHGS ENLFYQQPPLG VHSGLNHN YGNAV TGGMDAPQASPI PHFPQDTRDGLGLPVGSKNLGQMDTSR QGGWGS HAGPNHVQLRGNLANSNMM WGAPAAEPTDGYQYTSQASEIRTQKL TSGVLHKLDSFTQVFANQNLRIQVNNM AQVLHTQSAVMDGAPDSALRQLLSQKP MEPPAPAI PSRYQQVPQQPHPGFTGGLS KPA LQVGQHPTQGHLYYDYQQPLAQVP VQGGQPLQAPQ

686	8737	A	1637	2	251	FFFFLINKTKRLFTP*ALQWGYPSGSCG SVSQSCKCILRGRSRATISIEAEMVDL
687	8738	A	1638	36	530	NKVLPPAASEHSDCQISKHQVQLCP/PNII TLADIVKDPVSRTPALVFEHVNTDFKQ LYQTLTDYDIRFMYEILKALDYCHSMG IMHRDVKPHNVMIDHEHRKRLRIDWGL AEFYHPGQEYNVRVASRYFKGPELLVD YQMYDYSLDTWRMGCMCLASMIHQKEP
688	8739	A	1639	1	1833	
689	8740	A	164	265	446	
690	8741	A	1640	3	430	
691	8742	A	1641	137	1368	FHISLFEENRVLKQGSPLPPAAFLNTVTA QISQTSKSQALSRQPCSDHVGDPVPKAG HRVYTDVNTHRPREYWEYESHVVEWG NQDDYQLVRKLGGRKYSEVFEAINITN NEKVVVKILKPVKKKKIKREVKILGGIW RGGPNITLADIVKDPVSRTPALVFEHV NNTDFKQLYQTLTDYDIRFMYEILKAL DYCHSRGIMHRDVKPHNVMIDHEHRKL *LIDWGLAEFYHPGQEYNVRVASRYFKG PELLVDYQMYDYSLDMWSLGCMLASMI FRKEPFFHGHNDYDQF/VCRMALVLTGTE DLYDYDKYNIELDPRFNGYLGHRHSRKP MGTALSENENQH/LSSPEALDFLDKLLR YDPPSHGLLAREAMEHPYFLHCCEGPRP RNGFHLAMPGCSTPVQQRPI
692	8743	A	1642	874	1183	TPMLEQLGNRYLQNIACYFFRNMCTYQ LGCSGSR*SQHFGRPRQVDHLRSGVRD QPGQQGETPSLLKVQKFSWAWWRTPI SATWEAEAGEVLEPGRRLK
693	8744	A	1643	2	498	
694	8745	A	1644	49	538	SQTPMGHFEEDQGLLSKSLWGK/VLNV EKMLGRKKTPLGKGSPLVPTPWDPKR FL*TSFGKTLSPALLPHQWANPPKVKG HHGKEGCLTFPWEDAHKAPLDDPQAP FAPA*SELHCDKLHVDPENFKLLGNVL VTVLAIHFAGKEFTPGGCRASWAEDG
695	8746	A	1645	53	393	
696	8747	C	1646	116	379	
697	8748	A	1647	3	200	
698	8749	A	1648	1	637	MRSAARGPRQSCSAFNRFRANSSSPGF GAPCGRQCWIWESLGKERAKEGKDGL QSPRTSLKERPKTRITGALPMDHTEGLPA EPPAHAPSPGKFGERPFPKRLTREMR NYLKERGDQTVLILHAKVAQKSYGNEK RFFCPCPCVYLMGSGWKKKKEQMERDG CSEQESQPGAFIGIGNSDQEMQQLNLE GKNYCTAKTLYISDSDKR
699	8750	A	1649	111	748	GKREGAGERDQGRRRGESREGWSFGES LWKMAPVVTGKFGERPFPKRLTREMR NYLKERGDQTVLILHAKVAQKSYGNEK RFFCPCPCVYLMGSGWKKKKEQMERD GCSEQESQPCAFIGIGNSDQEMQQLNLE GKNYCTAKTLYISDSDKRKHFMLSVKM FYGPTSDDIGVFLASKRIKVISKPSKKKQS LKNADLCIASGTKVALFNR
700	8751	A	165	283	398	NWQEKCTFQIIGRKRMSFRILINFFHN* DRTVCYVP
701	8752	A	1650	1	519	IISTD/KAETY/FYEGMGPVFTPTVPV ESLQLNAGGDVAMLELTGQNFPTNLRV/ WFGDVEAETMYRCEQSMCVPDISGF REGWRWVRQPVQVPTLVRNDGNIYS TSLTFTYTPGPGRPHCSAAGAILRANS SQVPPNESNTNSEGSYTNASTNSTSVTSS TATVVS

702	8753	A	1651	238	1713	STMAWIKRKFGERRPPKRLTREAMRNYL KERGDQTVLILHAKVAQKSYGNEKRFFC PPPCVYLMGSGWKKIKLQMKCDGCSEQ GSQPCAFIGIGNSDQEMQQLNLEGKNYC TAKTLYISDLKQKHFMLSVKVFGNSD DIGVFLSKSSKPSKKKQSLKNADLCIASG KERWALFNRLLSQTVASTRYLHV/EKEGN FHASSQQWGAFIHLDDDDGSEGEFTV *DGYIHYGQTVKLVCSVTGMALPRLIIRK VDKQTTLLDADDPVSQLHKCAFDLEDTE RKYLCLSQRHIIQFQATPCPKENKEKIN DGASWAIISTHKAKHTFYRESGPLSLAP/ VSCPPALSVEISLKLNGGGDEPSLKLNR EFQLPKFYKVWFGDVEAEAMYRCGES MLRVVPDVSAF*EGWRVYSQQPIQVSVT LVRNDGHIYSTSLTFTYTPEAGPRPHCSV AGAILKASSSHVPPNELNTNSDGSYTNA STNSTSVTSSTPTTVS
703	8754	A	1652	1	309	FF*DRA*LCPPGWSARSQHTVTVSTFLGS SKFSLGPPPELPGDHRHAPPCPANFFYFS *RWGLPMLLVSNSQAQAILPSPFQKGW DYRAWGHHTWGSYLNFE
704	8755	A	1655	1	2325	
705	8756	A	1656	3	128	
706	8757	A	1657	203	2698	SANMGKKRTKGKTVPIDDSSETLEPVCR HIRKGLEQGNLKKALVNVEWNICQDC KTDNKNVKDKAEEETENKPSVWLCLAKC \GPQGFGRNFSR/EQHALKHLYLTPRSEPH CLVLSLDNWSVWCYVCDNEVQYCASNQ LGQVVDYVRKQASITTPKPAEKDNGNIE LENKKLEKESKNEQEREKKENMAKENP PMNSPCQITVKGLSNLGNTECFNAVMQN LSQTPVLRRELLKEVKMSGTIVKIEPPDLA LTEPLEINLEPPGPLTLAMSQFLNEMQET KKGVVTPKELFSQVCKKAVRFKGYQQQ DSQELLRYLLDGMRAEEHQVRSKILKA FGNSTEKLDEELKNKVKDYEKKKSMPSF VDRIFGGELTSMIMCDQCRTVSLVHESF LDLSLPVLDDQSGKKSANDTPALTKTVTY AECYSEEKYHTDCCYI*RSDISSGTRKHL QKKATKQAKKQAKNQRQKISGPALH LNDIRTIDHPEDSEYEAMSLQGEVNITS NHISQEGVMHKAEYCVNQKDLNGQAKM IESVTDNQKSTEEVDMKNINMDNDLEVL TSSPTRNLNGAYLTEGSNGEVDISNGFK NLNLNAALHPDEINIELNDSHTPGTKVY EVVNEDPETAFACTLANREVNTGECQIQ HCLYQFTRNEKLRDANKLLCEVCTRQ CNGPKANIKGEVRKHVYTNAKKQMLISL APPVLTLLHLRFQAGFNLRKVNHKHF PEILDAPFCTLKCKNVAENTRVLYSLY GVVEHSGTMRSGHYTAYAKARTANSH LSNLVLAHGDIPQDFEMESKGQWVHISD THVQAVPTTKVLNSQAYLLFYERIL
707	8758	A	1658	992	1863	GIWRNVHRQPQLESCEPTPACSGRACAC CPVSCGWSHGQDWMVPVAGRCTRAQR CCTGGASLPTVHKSTLSSCSAPPADSAA CVFIYFIIF*QSLNSVAQAGVQWRNL KLLQPLPPAFKAFSCLSLCNWDYRRVP PGLANFCIFSRDGGFTMLVVRLVSN*PC DLPASASQSAGITALSHHAWLLFFETES RSVVQAGVQWCDLGSQAPPPGFTPFSC LSLQSSWDYRRPPRPANF/CVFLVETGF HC*PGWSRSPDLMIPPGLSLPKWCDCRR DTKHPASKF

708	8759	A	1659	318	1681	SPRMHALVLLLCIGALLGHSSCQNPASPP EEGSPDPDSTGALVEEEDPFFKVPVVKL AAAVSQTSAYDLYRVRIQA*APRPNVLP VSLFKCGPTALSA\SLGKRSKRKNPIIH RVALYYDLIKQAPD\HGYLIRKLP*HGHF PPQKNLKSASR\VFEEKLRIKSSFVAPLE KSYGTRPRVLTGNPRLDLAQEINN\WVQ A\Q\MKGKLARSTKEIPDEISIVLL/GV*AH FKGQ\WETKFDSRKT\LEGFLLGMKERT REGPP*LSDPKGCIFYAMGLGFRFSACKIC PACPLTGSMSSIIFFLP\KVTQ\NLT\NEES LTLRS*FMTIDPRT*KTVAGGSLSPKLLK LSYEGEEHPKFLAGR*SLQSLV*FHPDFS KNTGK\PIKLD\FRVEH\RLAFEWNE\DG GNHPPSPRGLQPAHL\TFPLDYHLNQPFIF LLRDTDTGALLFIGKILNDPRGP
709	8760	A	166	283	397	NWQEKCSFQIIGGRKRMSFRILINFFHN* DRTVCYVP
710	8761	A	1660	3	340	
711	8762	A	1661	2	500	GKPD PSTKKQHTIWSPSPHQGNPDLEVY NVIRKQSDVSLAETRPDLKNISFRVCSGE ATPDDMSCDYDNMAVNPSESGFVTLVS VENEIYGY*DI*KTETDNNGKEMISKILLF SIRKIHRRSMNKLRS GPVDEHVPTTSC WTPTFWL YPLSQPVIQLDLMRRYL
712	8763	A	1662	3	52	
713	8764	C	1663	92	244	MRCEHLVLIPYVYFYSNKLCSRLXXXX XGGAVLKNPWGGQSLPGLAR**
714	8765	A	1664	336	413	
715	8766	A	1665	233	400	GGAVLKNPWGGPSLPGLAR**FFPYRGA Y*NLPGNFWKEPLFLGGDILGQPPFGNL
716	8767	A	1666	194	360	GGAVLKDPWGGQSLPGLARK*FFPYGG PN*NLPGNFWKGPLLWGGDILGQPPYRN
717	8768	A	1667	319	391	
718	8769	A	1668	313	542	ALKQPT/PQTKEERAFDPRVHAE*IPYVF EIHIRST*KTT*NGNPTAPLPVRAPTARV RTWPNPGHSCAGSHSSR
719	8770	A	1669	143	1316	ERLEIGKELQLVWDEPHLTPGND SLLPSS CCVTAASDLDRGGQPVCRRGTQRPCY KVIFYHDTSRRLNFEVVKFSCRRDGGQL GSIESEDEQK\IEKF\IENLLPSDGD\FWIGL RRREEKQSNSTACQDLYAWTDGSIQFR NWYVDEPSCGSEVCVVMYHQPSAPAGI GGPYMFQW\NDDRCNMKNNFICKYSDE KPAVPSRRS*GEETELTPVLPEETQEED AKKTFKESREAALN\LAYILPSIPLLLL VTT\VCWVWICRKRKREQDPSTKKQH TIWSPSPHQGNPDLEVYNVSKKTNAKSF LSETRPDLRNISFRVCSEESPPDDMSCDY DNMAVNPSESGFVTLVSVESGFVTNDIY EFSPDQMGRSKESGWVENEIYGY
720	8771	A	167	2	1012	AEALVESFWKAKQHTKEELKSLQAKDE EKNENEKAKAACSAAMEEDSEASSSST GDSSQGDNNLQKLGPD\DVSDTDSIRRV YTRLLSNEKIEIAFLNALVYLSNVECDL MYHKVYSQDPNYLNLFIIVMENRNLHSP EYLEMALPLFCAMSKLPLAAQGLIRL WSKYNADQIRRMETVQQLITYKVISNE FNSQNLVND\DDAIVAASKCLKMIYYAN AYAVTKNLGLYYDNRIRMYERRITVLY SLVQGGQLNPYLRLIVRCDHIIDALVRL EMITMENPADLKQFY/RGI*RRTRWVAA FWDRASEPKANSIGFGGSQLWMPTPVAS YT

721	8772	A	1670	18	686	SPPPPPAREMNFVRAANRRPRRVSRRP VQQQQQQPPQPPPPQPPQPPHQQPSS PPQ*QQQQHPPASSPPPPPLQERNVGE RDDDVPADMVAEESGPAQNSPYQLRR KTLLPKRTACPTKNSLEGASTSTTENFG HRAKRARVSGKSQDLAAPAEQYLQEK LPDEVVLKIFSYLLEQDLCRAACVCKRF SELANDPNLWKRLYMEVFYTRPMMH
722	8773	B	1671	155	310	MAAIRKKLVIVGDGACGKTCLLIVFSK QFPEVYVPTVFENYVADIEVDGKQ*
723	8774	A	1672	162	877	AMAAIRKKLVIVGDGACGKTCLLIVFSK DQFPEVYVPTVFENYVADIEVDGKAGRS LACGDTAGQEDYDRLRPLS*PDTADVILA MCFSIDSPDSLEWIPRKSWTPEVKHFC PNGGPSILVGELRRVLSGIDGATQGRGLR PRLKAGSPVET*RKGRDMGKQGLALFG YIGSCSSQRPKDWEVEEVF*KWATESL LWQA*TLGKKKSGVPLSLVKPLLQAQPL MRLIFEVLFINLSV
724	8775	A	1673	1	711	
725	8776	A	1674	1	2647	MGVTSAAAGLVGSAPQCVALPSEGWTL AVWPVAACTCSGVGSSPKLTPGSFVHCP WFLLLTEATRAEIKRPFKAELKASVRP MEGSHCWGGEARRTSQGHTEQKGELRA RRQAQNEDEDVKEVWVGKTKKEESDKL GCQGAWVPPRVPSWIGRFELWVVGYYWE QPAVSWQMRVVRLRLRAALTLLGEVP RRPASRGVPGSRRTQKSGARTDSAWR RALTVISTSPGTSRMDPVALVAVGGPRR FPGGHTLQRLPVALRTLIPADQAHQAPN STTWLGSRAGLLALAAGLGIRDAAHG PLQVGGMGGYTGMGSEVRWEKEKHED GVKWRQLEHKGPYFAPPYEPLPDGVRFF YEGRPVRLSVAEEVATFYGRMLDHEY TTKEVFRKNFFNDWRKEMAVEEREVIKS LDKCDFTIHRFYVDKAAARKVLSREEK QKLKEEAELQQEFGYCILDGHQEKIGN FKIEPPGLFRGRGDHPKMGMLKRRITPE DVVINCSRDSKIPEPPAGHQWKEVRSDN TVTWLAAWTESVQNSIKYIMLNPCSKL KGETAWQKFETARRLRGFVDEIRSQYRA DWKSREMKTQRVALYFIDKLALRAG NEKEDGEAADTVGCCSLRVEHVQLHPE ADGCQHVVFEFDLGDICIRYYNKVPGGE KPVY*NLQLFMENKDPDDLFDRLTTTS LNKHLQELMDGLTAKVFRYNASITLQE QLRALTRAEDSIAAKILSYNRRANRVVAIL CNHQRATPSTFEKSMQNLQTKIAKKEQ VAEARAELRRARAHEKAQGDGKSRSVL EKKRRLL*KLQEHHLAHLVQATDKEEN KQVALGTSQNLNYLDPRISIAWCKRFRVP VEKIYSKTQREFAWALAMAGEDFEF
726	8777	A	1675	2002	2238	KGDFTKLPC/LC*SVPAFY*RLKICCSIY LV*YMSVSVIESICYKYTVFCSRG
727	8778	A	1676	3	428	
728	8779	A	1677	263	899	ISYQEGTSAIQRK*QEVTLRK*TQESE/SA GNDSASTAPRSTEESESDVFTESELSPIR EELVSSDELRODKSSGASSESQTVNQA EVESLTVKSESTGTPGHLRSDEHSTNEV GTLCHKTDLNNLEMAIKEDQIADNFQGI SGPKEDSTSIKGNSDQDSFLHENSQHJEE SQKENMPCGETAEFKQKQSVNKGKQGGK EQNQDFTGQRAG
729	8780	A	1678	1165	1530	VKNNGNEVIICHFHLTFGIYLLFFETEFCS CRPRLECNGAILAHCNRLRPGFKRFSCF SLPCC*DYRHLPVRPVKFFVVLVETGFHY LGQAGLKLTPGDL/PPPLGLPKCVSHCA QPRVSTF

730	8781	A	1679	197	843	RLFSSNQTVDSQKNVDITLKGTPQ*SC KGPRGTLRWRDFMHIKCGTSALLGKEKK RGFRVDKWWGSRRELGYPGTTCSHV QDHDPRGVTTGASRYQDEGPVYASPSPH PTVGLSQENGSSLLKSRNFFGVKKYIPQG FRMRPGCLLVSVSQGPRKE*INPLKGNDI *ALLQIPAAALNPASPTRLKTGIRKFFGW VSMSLEKGTVPGLIE
731	8782	A	168	966	3172	
732	8783	C	1680	27	218	MLMADIRKEERNHLCRSSRRTWTILDRA EYSDHVVLLQGAGVGWGTSSXSPFLYSFEI PYGAQVA*
733	8784	A	1681	490	773	HPQIFVPGQESFNDRIKQPVEGLVVLRE HERHSPSLRLHLEATQRLRHPGLRLRG ELLWLIIRFIQTLPFPAAGPTRGAGIY PRGKQPVEGLVVLREHERHSPSLRLHLE ATQRLCHPGLRLRGELLWLIIRFIQTLP LPFAAKGPTWAGIYPRGKQPVEGLVVL REHERHSPSLRLHLEATQRLCHPGLRL RGELLWLIIRFIQTLPFPAAGPTWGA GIYPRGKQPVEGLVVLREHERHSPSLRL HLEATQRLCHPG/LPQAQGRAPSLAHHQI HPNTPSSFCSQGTAGGWDLPGQQAAC
734	8785	C	1682	48	80	MGLWLFHEY*
735	8786	A	1683	858	1055	
736	8787	A	1684	1	103	VFFLFGGDVSLCHPGWSAVA*TQEAE PFVQII
737	8788	A	1685	451	785	CSQDGGRLWDLVRHPQTFVPGQESFND RILKQPVEGLVVLREHERHSPSL/PASS*G HTASPPRSPQAQGRAPSVAPPTTPQICP TTPSSFSSKRTYAGGWDLPGQQADC
738	8789	A	1686	1	1335	MNDDIRSDLPDWRDTPCVQKKAMD RTKTRFRKRGQITGKITTSRQHPQNEQS LQRSTSGYPLQEVVDDEVLGPSAPGVDP SPPCRSLGWKRKKEWSESEEEPEKELA PEPEETWVEMLCGLKMKLKQQRVSPIL PEHHKDFNSQLAPGVDPSPPHRSFCWKR KREWWDSEESLEEEPRKVLAPPEPEIW VAEMLCGLKMKLKRRRVSLVLPHEHEA FNRLLEDPVIKRFLAWDKDLRVSDKIPSE PTI/HGSITQNPSSGFDLHPTFEYPSIPQFP NEYSHPNTEGGCQS*ARDSPLPS/VSGKL TSAGGLSWWCP*APT*FLSSATWPMTW RRTRTPNKTSTSCMRPALAYPWSVT VGSSYAVA*TPCVQKKAMDRTKTRFRK RGQITGKITTSRQHPQNEQSLQRSTSGY PLQEVVDDEVLGPSAPGVDPSPPCRSLG WKRKKEWSESEEEPEKELAPEPEETWV VEMLCGLKMKLKQQRVSPILPEHHKDF NSQLAPGVDPSPPHRSFCWKRKREWWD ESESLEEEPRKVLAPPEPEIWWAEMLCG LKMMLKRRRVSLVLPHEHEAFNRLLED VIKRLAWDKDLRVSDKIPSEPTILGASP KTLPLASQICRPSNTPPSRNFQMSTVTPT LRVGASPELGTVPYLPWEADLSRRPLL VVPLSTNLISVLSYLANDMEEDDEDPKQ NIFYFLYGKTRSRPLVRNRRFQLCRCLN PRARKNRSQIALFQKLRFQFFCSMSGRA WVSREELEENTGPRGDVDFQQELYSNA NGRQQERGEEPFVQII
739	8790	A	1687	385	889	LEPTLTEQGYARAVLPQIEVEDVLFGL VVLHVIGQVESQEEMNALVLPGEAGP AEIRYDHSQEILVRHPQIFVPGQESFNDRI LKQPVEGLVVLREHERHSPSL/PASS*GH TASPPRSPQAQGRAPSVAPPTTPQIGPT TPSSFSSKRTYAGGWDLPGQQADC

740	8791	C	1688	1	1869	MDSPTPHDPAAPLLVTVLESVQKTKDR TETSFGEIGQILGKIMTSHQPPQEEQSPQ RSTSGYPLQEVVDDEVSGSAPGVDPSPP RRSLGCKRKRECLDESDEPEKELAPEP EETWVAETLCGLKMKAKRRRVSLVLP YYEAFNRLLAPGVDPSPPRRSLGCKRKR ECLDESDEPEKELAPEPEETWVAETLC GLKMKAKRRRVSLVLPYYEAFNRLLA PGVDPSPPRRSLGCKRKRECLDESDEPE KELAPEPEETWVAETLCGLKMKAKRRR VSLVLPYYEAFNRLLAPGVDPSPPRRSL GCKRKRECLDESDEPEKELAPEPEETW VAETLCGLKMKAKRRRVSLVLPYYEAF NRLLAPGVDPSPPRRSLGCKRKRECLD ESDDEPEKELAPEPEETWVAETLCGLKM KAKRRRVSLVLPYYEAFNRLLDPVIL RFLAWDKDLRVSDKIPSEPTILGASPKTL PPASRICIRPSNTPPRNFMSTVTPMLSY LANDMEEDDEAPKQKIFYFLYGKTHSHI PLRPKHWFQLCRPMNPRARKNCSQIALF QKRRFQFFCSMRCRAWVSPEELEENTGP RGDVFQFQELYSANGRHQEGGEEFV QII*
741	8792	A	1689	520	1235	WTDFRSIGLMALAGSVLEFSARSKDATP DPP/LGTGKVPSTAPTGAAPPGLPTAAFD VVLHPPFRAGRKKYFPSLLFA*WLCQRSS P*RGADPVIGLYLVHRGGACQPTLGNR QTPRLGIHARPRRRATTSLTLLAFGKN AVRCALIGPSLTSRTRPLTEPLGEKERR EVFFPPRPERVEHNVESRWEPRRRGAC GSRGGNFPSPRGGSGVASLERAENSSTEP AKAIKPIDRKSVHQICSGPVVPSLRPNAV KELVENS LDAGAH
742	8793	B	169	1	2187	MAGKASESWRKVKDTSCMAVTRENEK DAKAETPKTIRSETYYHKNSMWETAP MIQIISQGVPTTHENYGSTIQDEIWCLTN FCLDDMLSFVLESCNHCAYCLNVWYR KRAAAKHLLIERYHQLTEGCGNEACTN EFCASCPTFLRMDNNAAIKALELYKIN AKLCDPHPSKKGASSAYLENSKGAPNNS CSEIKMNNKGARIDFKDVTYLTEEKVYE ILELCREREDYSPLIRVIGRVFSSAEALVQ SFRKVKQHTKEELKSLQAKDEKDEDE KEKAACSAAMEEDSEASSRIGDSSQG DNNLQKLGPDVSDIDAIRRVYTRLLS NEKIETAFNLALVYLSNVEDLTYNHV YSRDPNYLNLFIIVMENRNLHSPEYLEM ALPLFCCKAMSKPLAAQGLIRLWSKYN ADQIRRMETFQQLITYKVISNEFNSRNL VNDDDAIVAASKCLKMVYYANVVGGE VDTNHNEEDDEEPIPESELTLQELLGEE RRNKKGPRVDPLETELGVKTLDCRKPLI PFEEFINEPLNEVLEMDKDYTFKVVETEN KFSFMTCPFILNAVTKNLGLYDNRIRM YSERRITVLYSLVQGGQQLNPYLRLKVRR DHIIDALVRLEMIAMENPADLKKQLYV EFEGEQGVDEGGVSKEFFQLVVEEIFNP DIGMFTYDESTKLFWFNPSSFETEGQFTP IGIVLGLAIYNNCILDVHFPGLSTGS*
743	8794	A	1690	2176	2641	RKTIEEKADPKLQGFVCLFVLETESCSA SQAGMEWPNLNSLQPPPGFTQFLC/SQP PE*LGLTGVPPhQAHCIFSRDGASPC*P GWSPITGLKRSTCFSLKWCWDRHEPPR LAYFLALFNREGLAMLPRPVNSWPQVI LLWPPSVLGFQA
744	8795	A	1691	112	410	



745	8796	A	1692	2148	2510	SQHFGKLRQEDHLRSGVREQPGQHGKT PYLLKIQKLAAGHGGMCLYSQLLMLRQ ENGVNPGGACNEPRLRHCTPAWVTEQ DSVSKKKTVHKKKLNWGSVHRGET*RT SPCVALDTAHL
746	8797	A	1693	178	730	IFFFFFFKMECSVAQAGVQWRDLGSLQ APPRGFTPFSCSLPSSWDYRRPLPRPAN FFYF**RRGFTVLATMVIS*PHDLPTLAS QNAGITGVSHHTQPVYALFFSFETEFCS\ VAQAGGQWRDLGSPQPPPRFKQFSHLS LPSSWDYRHAPPSLANFFCIFSRRDRVSPS WSGWSRTPDLR
747	8798	A	1694	2	780	CWGLRRQRSQDVTMTAWALLITLLTQ GTGSAQASALTQPPSASGLGQSVTFSC SGTSSDIGNYNVSWYRQHHPGKAPKLM YEVTKRPSGVPEARFSGSKSGNTASLTVS GLQSEDEGDYCCSMARHHS/VGWVF GGGTQVDPGLGQPKRAALGSLCFPPSLG EASSQPRPTLVCVISDFLPKGP*TVAKA\ DSSPVKAGVETTPPSKQSNNNYAATS YLTLTPEPLKVPQEATAACRVTPÆGGTLE KTVAPTECS
748	8799	A	1695	103	532	
749	8800	A	1696	112	1158	SCGLGHRKTFSFVSLPARNETQPKACRE QNMEGDFSVCNRC*RHVVSANFTLHEA YCLRFLVLCPECEEPVPKETMEEHCKLE HQQVVGCTMCQIMHKSSLEFHKANECQ ERPVECKFCKLDMQLSKLEHESYCGSR TELCQCGQFIMHRMLAQRRDVCRESQ AQLGKGERISAPEREIYCHYCNQMIPEN KYFHHMGKCCPDSEFKHFPVGNPEILP SSLPSQAAENQTSTMEKDVRPKTRSINRF PLHSESSSKKAPRSKNKTLDPLLMSEPKP RTSSPRGDKAAYDILRRCSCQGILLPLPIL NQHQEKCRWLASSKRKTSEKFQLDLEK ERYYKFKRHF
750	8801	A	1697	343	586	KQKQTSFSSLPRRVNCNSHLVLL/RCDFK NCNLAFTKICQFIKST*EYMGFIFLCFF LLYNIPFHICGPRVKSSFCYRH
751	8802	A	1698	217	360	
752	8803	A	1699	1	390	WEEIQELNEVARHRPRSTLVMGIQQENR QIRELQQENKELRTSLÆEHQSLEIMSK YREQMFRLMASKKDDPGIIMKLKEQHS KELQAHVDQITEMAAVMRKPLKLTNSR VARNKNEYFNLNKKTKA
753	8804	A	17	214	464	FCGLLLLHPVSADF*PAELINTQEPQERC QLDTGESSRVQHTLPSCPVCQGGTAELS RNVMIASELKCLHPSPKLEYILPGN
754	8805	A	170	270	497	MHFLKAGRGGURL*SQHFGRRPWADHE/ RSGDRDNRG*HGETPSLLKNTKKN*PGT VAGALVASTREAEAGEWREPG
755	8806	A	1700	386	790	NSIMEEQELNEVARHRPRSTLVMGIQQ ENRQIRELQQENKELRTSLÆEHQSGLGN L**AKYREQMLRLLMASKVDDPGIIMK LKÆEQHSYD*HWYIVTSPKDSSLMHLDTS LKHLNMDWREGTWKQIRMYTK
756	8807	A	1701	1089	1295	CPPLPFFETEFRRSCCPGWSNSSLHRPPG FKQFILNFLG*K/PSYPYLFAQSCARMCV CVCVCIIFTET
757	8808	A	1702	2	367	RDNTSPISVILVSSGSRGNKLLFRYPQRS QEHFASQT/RFSVILATILATKSEMCGQ KFELKIDNVRFVGHPTLLQHALGQISKTD PSPKREAPTMILFNVFALRANADPSVIN CLHNLS

758	8809	A	1703	1	452	RCQYSTREAKLI/LALQD/EVSAMAD/GN E/GPQSPFHILPKCKLARDLKEAYDSL TSGVVRHLHINSWLEVSFCLPHKIHYAASS LIPPEAIERSLKAIRPYHALLLSDEKSLL GELPIDCSPALVRVIKTTSVKNLQQLAQ DALLPPRLP
759	8810	A	1704	1	468	
760	8811	A	1705	2	118	
761	8812	A	1706	1	671	DADSRFSEVF/LATILATQFEMCGQKFEL KIDNVRVFGHPTLHRHALGQISKTDPSPK REAPTMILFNVGFALRANADPSVINCLH NLSRRIATVLQHEERRCQYLTREAKLILA LQDEVSAMADGNEGQSPFHILPKCKL ARD/PQLWLPNQQR*HDPHQPHGQLQR RATSQRGLATEPEDDGEPAGQPVGA*TR SHPQCTRSPEP*GPPHVCQAPSLPRP
762	8813	A	1707	230	345	
763	8814	A	1708	464	763	
764	8815	A	1709	3	156	GRHHL/EEEIMYNENTRGSQLLMLF*QSF AACWMVTTTHEDPVIAVFQALLP
765	8816	A	171	2	421	PAWLSRFTCAATYIKMPEE*ETHYQPM EEEADTFTY/EAKMAPLML*IINTFYSSKE ISLRELISNSSD/AK*LINPQSDFGFRVNL GVLNA*INIFC*QALDKIRYESLTDPIKLD SGKELHINLIPNKQDRTLTVDT
766	8817	A	1710	1	1878	FRGTWAPSASGSVLLRPPPPAPSSSGPL RPRPRPHGMRDNTSPISVILVSSGSRGN KLLFRYPFORSQEHASQTSKPRSRYAAS NTGDHADEQDGSFSDVILATILATKS EMCGQKFELKIDNVRVFGHPTLLQHALL GQISKTDPSDEGKAP*TMILF*CWLFALA RANADPSVINCLHNLNRRIATVLQHEER RCQYLTREAKLILALQDEVSAMADGNE DPKPPFHILPKCKLARDLKEAYDSLCT SGVVRHLHINSWLEVSFCLPHKIHYAASS LIPPEAIERSLKAIRPYHALLLSDEKSLL GELPIDCSPALVRVIKTTSACERTCRQLA QDADLALLQVFQLAHLVYWGKAIIY PLCENNVMYMLSPNASVCLYSPAGPSSSS HQFPFSWTWPSVLAKFSLPVFLCQNFNRN PLAPRCARRTQLH/IQMVVWMLQRRLL IQLHTYVCLMASPSEEEPRPRIEDDVPF TVARVGGRLSTPNALSFGSP*SSDDMT LTKPQAWTTPSAELLPSGDSPLNQRMTE NLF/APSLSEHERAAILSVPAQNPEDKN MFA/RGILHYFRGRHHEEIMYNENTRRS QLLMLFDKFRSVLVVTTTHEDPVIAVFQ ALLP
767	8818	A	1711	1	613	PLKRS DGCNDGRPTRPPTRPDITVFTSNL KQTRMVHLTPVEKSAVTALWGQA*TW MKVGGKALGK/RWVVLPPWDPKRSFEV LWGNLSQLPDAVNGANP*R*KASMAKE KVLGCPLSEWPLAHLADNLKGHPLPHE VNLNCDKILHRGSLKNFRLLGQTCLVC VPGPINFWQKNSTPTSCACLIKKSOLA WCWLNALGPTSIT
768	8819	A	1714	97	424	SPALWEAYDGWITLRSGVQDQSGQHGE MPSLLKIQKLAGHDGECL*SQLLRRLRR ENHLNLGGRGCSELSRYCIPAWAPEIAP LHSSLGDLNKTLSQKKTKTVSFIY
769	8820	A	1716	18	367	SPPPPRTTRWWPLRRPRLSLGTRAASLR FSSRKPCQNKPDYGLRSEKFR*SRK/A*G RQRP/PREKFPLPFKKPIEPGEAKPGEIV NGSVRPNNMPLYIPTSIAPYFTFLAVLT L

770	8821	A	1717	47	409	NSYIYMCITYSYINTIYIHIYLESNISLPLNI YISTPT/HIY*RHTV*VHTKAYVHML*HV YIHFCCLCVHKSFKGTIYRDASFLESCSKV NTECHKLRKVKRKYSRIHHTGIHQSSFIM RKMS
771	8822	A	1718	89	1560	IMKHTNPEPGSFSRFYSLKVAPKVKATA APVAGAPPQPQDLEFTKLPNGLVIASLEN YSPVSRIGLFIKAGSRYEDFSNLGVTTHLL RLYIQS*RTKGASSFQDNPVIGRQLGGQ IKC*PQQGENMGLYWWECARGDVDI MFEFLIVTTAPEFRSLGK*VNLQPQLKV DKAVAFQNPQTHAIGNLHAAA/YTGN ALANPLYCPDYRIGKVTSEELHYFVQN HFTSARMALIGLGVSHPVVKQVAEQFL NMRG\GVGLSGWQRANYRGGEIREQNG DSLVAHAFVAKSAVAGSAKPNAFVVLQ HVLGAGATMSRGAATTS\HLHQ\AVSQ ATQQP\FDVSAFNARYS\DLGLFGIYTISQ GHQLAGDCIKAA\YNQVKPIRSKKPFFP TQGVSAAKNKG*KAGIPLMVQWKSFLK CSPGRKSGSPGLLV/GLVPYMPHTPTVPS SQMDSSGLMLDIN\ARAKKFVFWARSS MGSKFGKFGDITPFCLMEL
772	8823	A	1719	53	420	
773	8824	A	172	1	267	CSAGGPWRAPQPRRFHRRRRPAQLPPPL PLPPLPASPRIHNRTFPRPSQRTPPPAALG CPEPGS/RSQGRGHARPPGSGEGDPTVSS PGY
774	8825	A	1720	1	1260	
775	8826	A	1721	403	1334	DTMALTSDLGKQIKLER/EVEGTLLQPAT VDNWSQIQSFPAKPDDLLICTYPKAGTT WQIEIVDMIEQNGDVEKQCR\AIIQHR\HP FIEWARPPQPSGVEKAKAMPSRILKTSP FHFSWLPPSF\WENNCKF/LFMLASEIAK D\CMVS*YHF\QRMNHMLP\DPVTWKEY F\ETFINGK\VFWSWF\DHVKG\W\WEM KDRHQ\N\LFYEDIKRDPK\HEIRK\VMQ FMGKKVE*TVLDKIVQETSFEKIKENPM TNRSTVSK\SILD\QSIFPPFMRKGTVG\D WEN\HFTVA\QNERFDEIYRRKMEGATSV NFCMEL
776	8827	A	1722	2	645	HGIQAHGQIPSYKTIIGGRDDSFTFFSET GAGKHVPRLLL*NWKPTVMDEVRTGT CQLFHLEQFITARKIAANNYARGHYTIG KEIIDLVLDRIKLADQCTGLQGFLVFHS FGGGTSGGFTSLLMERLSVDYGKKSLE FSIYPAPQVSTAVVEPYNSILTHTTLEHS DCAFMEEGEFSEAREDMAALEKDYEEV GVDSVEGEGEEEGEEY
777	8828	A	1723	87	1531	SLATMRECISIHVGQAGVQIGNACWELY CLEHGIQPDGQM/TQVTRPLGGGDDSFN TFFSETGAGKHVPRAVFDLEPTVIDEV RTGTYRQLFHPEQLITGKEDAANNYARG NYTIGKEIIDLVLDRIKLADQCTGLQGF LVFHSFGGGTSGGFTSLLMERLSVDYCK KSKLEFSIYPAPQVCTAVVEPYNYILTD HTTLEHSDCAFMDNEAIYDICRRNLDI ERPTYTNLNLISQIVSSITASLRFDGALN FTLTNFGTKLVFPFRIPLPCPIMPPVHFA *ERPPMNSFSVAREITQMLCFEPSPTRLVK \CDPRPWVKS\WPCCLVATGGDVVPKRC QMLPIAHPSPKRTIQFVDWCPTGFKV GINYQPPH\WVPGGNLA\KVTREAVCML SKHHSPFAEAWARPPTSFDLMLCQACP FVHWYLG\EGMEEGEFSEGRER*GCPFR KDYEKV\GVDSVEGEGEEEGKILIIHSLF G

778	8829	A	1724	84	1560	EATTSPLRLRHQLGSREAATMRECISIHV GQAGVQIGNACWELYCLEHGIQPDGQM PSD/RKPLGEGDDSFNTFFSETGAGKHVP RAVFVDLEPTVIDEVRTGTyrQLFHPEQ LITGKEDAANNYARGHYTIGKEIIDLVLD RIRKLADQCTGLQGFLVFHSLGGGNWV LVPPPPCLQLGGGGAGKRLSVDYQGQEV SWEFSIYPGAPRFPQPVVEPYNFHPTNPT PTLGAL*LCPSWVDNEAIYDICRRNLDIE RPTYTNLNRLLIGQIVSSITASLRFDGALN VDLTFQTNLVYPRIHFPLGHIMPPVIFA EKAYHEPAFL*QRSQMLCFEPANQMIV KCDPRPGKYMLCCLLYPAGDVVPQRISF LPLPTIKTQ/RLTHFLDWSPTDFKLVINY QPPTVVPGGDLTKVQRAVCMLSNVTAI AEA WARLDHKFDLMYAKRAVFVHWYVG EGMEEGEFSEAREDMAALEKDYEYEVGV DSVEGEGEEGEEY
779	8830	A	1725	153	380	EYKTONRFELRSPRLDCSGAISAHCNLC LPGSSNSHASASK*AGITGMHHAWDN FCILFSRRWGFCHVGQGW
780	8831	A	1726	14	322	IFSSEPLEGRPGRPGGARAACQEGAGK AGAAGD*PSP/PG*GHAAAPKCREFGHN QIDAGWNQRP/GKPGLVPMWEPCQPSC PLELSEFPFGAHSSWTSNSIY
781	8832	A	1727	605	3133	DSRQEG*RTGAPHMGDKGPGVSGPPG FQASIKFGCGQNFSPITLGPFGP/WGGC GQALSPSGVPGLEGVSPTRAKGWRFP KAPETLNERQIYPNAPPS*AG*GHADTE GQDRTPHLLGANSSGHLCCQLPF*SASIG GAGRD\SQGLSRAFSSASKHVPASAGTF *HSFSKG*VSKTTTTNAGNALFPMGSSK TKKPNSHQRGQMGS*GRNPPSLGRAPAP LPEREAPIAPQLGPSAAGTSRQVGQKSS TSP/PPGRGGNIEP*TQEERRKEKMKKAT GLSKHQPAQFIQNE*NLKGAGEF/GP/SGL AGSQNPSSKQLQGLGK*EQRL**GAG PDCSPLGKHTP*RSPSPLPRTGDASRGAS* GFSGKEASFGPGQPSTCLSGIRPSLGS*P LGQ*RTL/PCSNLPAGK/RNCLG/PPGLGR GHGRCSDSLQHGSSQT*AGANWRKRQ/PP VPAGLLDPGLTAQQA VTRSPWEGAQ RGGE GPVGLCWG*ACAKCRLQSGRTF AGGRQGSRSVWVGSEVMAPRKRPPAG PPGHKEGTAEAVSSQTVTGRIPEAVWP HHHQGKGTTEQEPCC*DVTKASAPGVS GDTG/MRGPLQPQASPNI*GAAACPFSSQR AGSSLQQRSLPAPSCPQAA/RGPPGLPG LPSSGSEENIHSGAWALVQGEGPSMDGR GNGMMLRGVWTGVHGGGMDMWRRG DLKGVPHGMIQVWTP/G/DKQDSSPAR TPAPQWLSITTGS*TPE/GDPGGKLDAAQ RGRAIAAHEQPEVAVLGVA/GHL*SPGS ARSSPRWHPHRSACRPPRSGGSPSPSSA *KSDRTDAGAGVAAAASPGAGAPAHCP QGPPRSCQGPQR
782	8833	A	1728	1096	1748	ELFPPTSTIALAQLRALTAQAGQPLTQVN QGAFSMPLWVLDPRERGD LKIKPSFLLL WGWAHLGFQHEALWALGCAFIERGG REAFLGPEMFWSGGFAHPCP*THQFWPG EPQ/EV*GGRHCGKAPREKWPALAPTFQ KEKPVVPVTPEAIPVCQEGAPPGTAKSIH CPPEIHTKEACVPGKEENVPGKRKIWS KKRDRQGRAQESRIQGSSEIP

783	8834	A	1729	162	788	QKLFFLAENIIRSFRTVKLSFVLNQMM CFISVFDVFSFFSPGFTSFVISLCFGFAAN LIGLGLAAKALDSGAFFSFVLSPSFPLPS CPHHFTLLKVMNTRSEIPFLAPSTLGFFE MESHCVTQ/CSGA/ISAHCSLHLP*SNFP VSAS*VAGTTGASHDNWLIFLFLVETGF HHADQGLKF*PQIHLPLGLPKWLGLQC EPCGWL
784	8835	A	173	218	430	
785	8836	A	1730	158	468	TGAGHGGLMPVIPSHFGRPWADHLRS GVRDQPGQH*NPVSTKNTKIGWA*WR APVIPAT*EGLRQGESLEPGRAEGARRC HYIPAGGDRVRLCLKKKKLN
786	8837	A	1731	1	1161	
787	8838	B	1732	1	1380	MDKFLDTYTLPRINQEELESNRPITASEI VAIINSLSSKKSPGPDGFTAIFYWSVGS GQAIRQEKEIKGIQLGKEEVKLSLFADD MIVYLENPIVSAPNLLKLISNFSKVS NVQKSQAFLYTNNRQTESQIMSELPFTIA SKRIKYLGIQLIRDVKDLFKENYKPLLKE IKEDTNKWKNI PCSWVGRINIVKMAILPK VIYRFNAIPIKLPMTFFFTILEKNTLKFIWN QKRARIAKSILNQKNKAGGITLPDFKLY YKATVTKTTWYWHQNRDIDQWNRTEPS EITPHIYNILFDKPEKNKQWGKDSLFNK WCWENWLAICRKLKLDLFLTPYTKINSR WIKDLKVRPKTIKLEENLGITIQHIGMG KDFMSKTPKAMATKAKIDKWDLIKLKS FCTAKETTIRVNREPTWEKIFATYSSDK GLISRIYNELKQIYKKKQTPSKSGRRT*
788	8839	A	1733	1	293	
789	8840	A	1734	1	1183	MKLKRNNEMSGKALDPREGFCDASYEI QTTIREYYKHL YANKLENLEEMDTFLDT YTLPRLNQEEVESLNRPIGAEIVAIINSL PTKKSPGPDGFTAIFYQRYKEELVPFLL KLFQSIEKEGILPNSFYEASILIPKGRDT TKKENFRPISLMNTDAKILNKILANRIQQ HIKKLIHHDQVGFIPGMQGWFNIRKSINV IQHINRAKDKNHLIISIDAEKAFDKIQPF MLKTLNKL GIDGTYFKI/Y/RDRHFSKEDI YAAKKHMKKCSLSLAIREMQIKTTMRY HLTPVRMAIHKSGNNRCWRGCGEIGTL LHWCWDCKLVQPLWKS VWRFLRDLEL EIPFDPAIPLLGVYPKDYKSCCYKDTCH/ IMFIVALFTIAKTWNQPKCPTMIDWI
790	8841	A	1735	66	1392	QVLLSFGTPLVLTTKREKNQIDAINDK GDITTDPTIEIQTSEIYYKHL YANKLENLE EMDKLLDTYTLPRLNQEGVESLNRPIG SEIEAIINSLRPISLMNIHAKILNKILGN*IQ QHIKKLIHHDQVGFIPGMQGWFNIRKSIN VIEHINRTKDKNHMIILIDA KAFDKIQPF FMLKTLNKL GIDGTYFKIIRAIYKPTVN IILNRQKLEAFPLKTGTROGCPLSPLFNI VLEVLAKAIRQEKEIKGIQLGKEEVKLSL FADDMIVYLENPIISAQNLKLTGNFSKV SGYKINVQKSQAFLYTNNRQTESQIMSE LPFTIASKRIKYLGIQLTRDVKDLVKENY KPLLKEIKEDTNKWKNI PCSWVGRINILK MAILPKVIYRFNAIPIKLPMTFFTELEKTT LKFIWNQKRACIAKSILSQKNKAGGITLP DFK
791	8842	A	1736	1	432	
792	8843	A	1737	1	413	
793	8844	A	1738	1	1401	

794	8845	A	1739	1	510	MLEVLAWAVRQEKEIKGIQLGKEEVKLS L*LMSNFSKVSQYKISVQKSHAFVYTN RQSESQIMSELPFTVATKRIKYLGIQLTR DVKDLFKENYKPLLNEIQEDTNKWKNIP CSWVGRINIVKMAILPKVIYRFNAIPKLP MTFFTELEKTKFIWNQKRAHIAKTIL
795	8846	A	174	9	201	
796	8847	A	1740	1	2052	
797	8848	A	1741	1	762	MNIDAKILNKILAKQIQQHIKKLIHHDQV GFIPGMQGWFNIRKSINVIQHINRTEDKN HMIISIDAEKAFDKIQPPFMLKPLNKLGI DGTYFKIIRAIYDKSTPNILNGQKLELMS NFSKVSGYKISVQKSHAFVYTNRQSES QIMSELPFTVATKRIKYLGIQLTRDVKDL FKENYKPLLNEIQEDTNKWKNIPCSWVG RINIVKMAILPKVIYRFNAIPKLPMTFFT ELEKTKFIWNQKRAHIAKTIL
798	8849	A	1742	1	1057	
799	8850	A	1743	1	1380	
800	8851	A	1744	1	862	MDTFLNTYTLPRLNQEEVESLNRPTGSE IVAIINSLPSKKSPGPDGFTAKFYQRYKE ELVPFLLKLFQSIEKEGILPNSFYEGSIILIP KPGRDPPKKENFRPTSLMNIDAKILNKIL ATRIQQHIKKLIHHDQVGIIIPGMQGWFI PKSINVIQHINRAKDKNHMIISIDAEKAFD KIQPPFMLKTLNKLIGDGTYFKIIRAIYD KPTANIILNGQKLEAFPLKTGTROGCPLS PLLFNIVVEVLARAIQEKKIKGIQLRKE EVKLSLFADDMIVYLENPIVSA*RLNQEE VESLNRPTGSEIVAIINSLPSKKSPGPDGF TAKFYQRYKEELVPFLLKLFQSIEKEGIL PNSFYEGSIILIPKPGRDPPKKENFRPTSL MNIDAKILNKILATRIQQHIKKLIHHDQV GIIPGMQGWFIIPKSINVIQHINRAKDKN HMIISIDAEKAFDKIQPPFMLKTLNKLGI DGTYFKIIRAIYDKPTANIILNGQKLEAFP LKTGTROGCPLSPLLFNIVVEVLARAIQ EKKIKGIQLRKEEVKLSLFADDMIVYLEN PIVSA
801	8852	A	1745	1	1551	
802	8853	A	1746	1	947	
803	8854	A	1747	179	887	
804	8855	A	1748	1	1074	
805	8856	A	1749	1	1060	MDTFLDITYTLQRLNQEEVESLNRPTGSE IVAIINSLPTKKSPGPDGFTAIFYQRYME ELVPFLLKLFQSIEKEGILPNSFYEASIIIP KLGRDTTKKENFRPISLMNIDAKILNKIL AKRIQQHIKKLIHHDQVGFIIPGMQGWFI ICKSINVIQHINRAKDKNHMIISIDAEKAF DKIQRFMLKTLNKLIGDGTYFKWKNIP CSWIGRINIVKMAILHKALYRFNAIPKLP MTFFTELEKTTLKFIWNQKRACIAKSILS QKNKAGGITLPDFKLHYKATVTKTAWG PYDR/DID/SWNQTDLMCAVLPSRYVT QDSSIL*KMR*VKKLQKSLQLADLVQG LRKDVSIT
806	8857	A	175	1453	1936	EVEKHLCCQG*ELLRAQHN*AAACRRPRP PAPGPQCSAGGPMARAPAPQVPPPPPCS A/PPPLPLPAS/HAHPQPHFRHGRSA LLPRPPWAVRSRGALAGPRTRAAAGLR GGAGAAPAPADARFPASSPAE*PKFPQN SARALTGFPRCTDPTVSSPGY

807	8858	A	1750	1	1401	MSELPFTIASKRIKYLGIQLTRDVKDLFK ENYKPLLKEIKEDTNKWKNIPCSWVGRI NIVKMAIMPKVIYRFNAIPIKLPMPFFTEL EKTTLKFIWNQKRARIAKAILSQKNKAG GITLPDFKLYYKATVTKTAWYQNRD IDQWNRTEPSKITPHIYNLYIFDRPEKNK QWGDLSLFNKWCWENWLAICRKLKLD PFLTPYTKINSRWIKDLNVRSKTIKLEE NLGNTIQDTGMGKDFMSKTPMATKD KIDKWDLIKLSFCTAKETTIRVNRQPTK WEKIFATYSSDKGLISRIYNELQIYKHK TNNPIKKWARDMNRHFSKEDIYAAKKH MKKCSLSLAIREMQIKTTMRYHLTPVRM AIIKSGNNRCWRGCGEIGTLLHCCWDC KL VQPLWKS VWRFLRDLELEIPFPAIPL LGVYPKDYKSCCYKDTCT/R/MFIVALFT IAKTWNQPKCPTMIDWI
808	8859	A	1751	1	1410	
809	8860	A	1752	1	1559	MDTFLDTYTLPRLNQEEVESLNRPTGSE IVAIINSLPTKKSPGPDGFTAIFYQRYKEE LVPFLLKLFQSIEKEGILPNSFYEASHILIP KPGRDTTKENFRPISLMNIDAKILNKIL ANQIQQHKKLIHHDQVGFIPGMQGWFN IRKSINVIQHINRAKDKNHMIIISDAEKAF DKIQRFMLKTLIKLGIDGTYFKIIRAIYD KPTANIILNGQKLEAFPLKTGTROGCPLS PLLFNIVLEVLARAIQEKEIKGIQLGKEE VKLSLFADNMIVYLENPIVSAQNLLKLIS NFSKVSGYKINVQKSQAFLYTNNRQTES QIMSELPFTIASKRIKYLGIQLTRDVKDLF TSVISQVWVGSGLDTSLLQLWVGSGLDISV ILQLWVGSGLDTSVISQLWVRSGLDTSVISQ LWDIAFLSHVPGMLS*KSQVSLATLMQR MSSHGLGQLQPCGSAGYSSHGCFHRLAL NACGSSSAQCKLLVDLPFWGLDGGLLT AARGHSPGALCVRVPTPHFPSMLP
810	8861	A	1753	1	1575	MNTDAKILNKILANRIQQHKKLIHHDQV GFIPGMQGWFNIRKSINVIQHINRTKDKN HMIVSTDAEKTFDKIQQPFMLKTLNKLGI DGTYLKIIIRAIYDKPTANIILNGQKLEAFP LKTGTROGCPLSPLHKFLDTYTLPRLNQ EEVESLSSPITGSEIVAISS/FTNEKESRTR WIHSRILPEV*GGT/RIKYLGIQLTRDVKD LFKESYKPLLKEIKEDTNKWKNIPC*WV GRINIVKMAILP/KELEKTTLFIWNQKR ACIAKSILIQSKAGGITLPDFKLYYKAT VTKTAWYQYQNRDIDQWNSTEPSEIMP HIYNLYIFDKPEKNKQWGDLSLFNKWC WENWLAICRKLKLDPLTPYTKISSRWIK DLNVRPKTIKLEENLGNTIQDIGMGKDF MSKTPKAMATKANIDKWDPIKLSFCT AKETTIRVNRQPTKWEKIFATYSSDKGLI SRIYNELKQIYKHK/TNNPIKKWAKDMN RHSSKEDIYAAKKHMKKCSLSLAIREMQ IKTTMRYHLTPV
811	8862	A	1754	468	4080	RVRSGTDSIASGPRVLCSTRERRRRRSY LVHRRCVPCGPAVDGVFNLTNDRWFL HINRAKDKNHMIIISDAEKAFDKIQQPFM LKTNLKLGIDGTYFRIIRAIYDKPTANIIL NGQKLEAFPLKTGTROGCPLSPLLFNIVL EVLARAIQEKEIKGIQLGKEEVKLSLFA DDMIVYLENPIVSAQNLLKLISDFSKVSG YKINVQKSQTFLYTNNRQTESQIMSELPF TIASRIKYLGIQLTRDVKDLFK

812	8863	A	1755	1	2882	MDKFLD TYTL PRLNQEEVESLNR SITGSE IVAIINSLPTKKSPGPDGFTA EFYQRYKEE LVLLLLLKFQSIKEATLPNSFYEA SIILIP KPGRDTTKKENFRPISLMNIDAKILSKIL ANQIQQHKKFVHHDEVGFIPRMQGWFN IHKSKNVIQYINRTKDKNYMIISIDA EKA FDKIQQLFMLKTL SKLGIDGTYLKIRAIY DKPTVKIILNGQKLEEFPLKTGT RQGCP SPLLFNIVLEVLARAI RQEK
813	8864	A	1756	1	1746	MIISVDAEKAFDKIQQFMLKTLNKL GID GMYFKIIRAIYDKPTANIILNGQKLEA FL KTGT RQGCP SPLLFNIVLEVLARAI RQE KEIKGIHLGKEEIKLSLFADDMIVYLENPI VSAQNLLKLISNFSK VSGYKINAQKSQA FLYTNNRQTESQIMSELPFTIASKRIKYL GIQLTRDVKDLFKENYNPLNEIKEDTN KWKNI PCSWVGRINIVKMAILPKNWKK TTLKFIWNQKRACIAKSILSQKNKAGGIT LPDFKLYYKATVTKTAWY WYQNRDIDQ WNRTEPSEIMPIYNYLIFDKPEKNKQW GKDSL FNKWCWENWLAICRKLKLD PFL TPYTKINSRWIKDLNVRPKTIKLEENLG ITIQDIGLGKDFMSKTPKAMATKAKIDK WDLIKLSFCAEKETTIRVNRQPTKWEKI FATYSSDKGLISRIYNELKQIYKKKTNNPI KKWVKDMNRHFSKEDIYA AKKHKMKKC SSSLAIREMQIKTMR YHFTPV RMAIHKK SGNNRDMDEIGNHHSQQTIAMTKNQTP HVLTHRWELNNENTWTQEGEHHTLGPV VGNLKLRLKPKISLS
814	8865	A	1757	1	2866	
815	8866	A	1758	1	1285	MLEVLAWAVRQEKEIKGIQLGKEEVKLS LFADNMTVYLENPIVSAQNLLKLISNFSK VSGYK VSGQKSQALLYTNNRQTESQIMS ELPFTIASKRIKYLGIHLTRDVKDLFKEN YKPLLKEIKKDTNKWKNI PCSWVGRINI VKMAILPKDIIQENFPNLARQANIQIEIR KTPQRYSSRRATPRHIIVRFTKVEMKEK MLRAAREKASHHTYSKIDPILGSKPLLSK CKRTEIITNYLSDHSAIKLEFRIKNL
816	8867	A	1759	2	231	PPSAS/CVQTGPPCHSLAFPPSAPGQE GHQLPSHVIPCHLALGTAFPPQAAMAG WGVSQATYCQELEPQFPVSSS
817	8868	A	176	5	711	FEALRMIGHLFAKSPYHGKINS AKIVART NIKLMVKVVMWKNGEIDTLQIVYGDN APKKSVA VYKCITSLRRSKVLDEACSSR PVT SICKGKINLVYANISIGSAYTILM/EK LNLSKLSTHWMPQ/PVHPDQLKTRAKLS ME/ILNKWDQDPKGFL*KIVTRDRTWLY *YTFEDKAQSKQWLPRGGSGPVKAKAG WSRAKVKA/TTGFWNAQIVLLVDFLEGQ RTITSAYESILLKKK
818	8869	A	1760	1842	2096	CHSQKPQVPPPKPWGSLERPNT*VPAC VLPAPAPARPGQIARQ*PWVAPGTSGQ SRVGRTPGVSSGHGQTLTCP MALLQPLL
819	8870	A	1761	37	288	WGNTGSQVMTTVLNTALLPKPSPMLPI KHYAIPPSY/SPHP*PIPSPTANLESAPP ASAP/PPPLPPAQLGEAHAPPE*YAIPPP SYSHTRSHPSPAQQQTL SQRHQPLHLSSS ASTLPSWGKLMHHLNNIPQ
820	8871	A	1762	397	506	SFLEDLTGLSNQPATAGANWITRLCTGS P*NV*PPWHMSSGHPEAVSRVCIFNLVG FGI
821	8872	C	1763	291	491	MGADRQTHPQDRWFSHLHLKLLRRSYRI EQPASHSRGRDLNTSLHRLSLCPCHPPLF LTLFLGIMF*



822	8873	A	1764	630	1159	SFYSALMLSDRKNRGRGRHGLSRRIKR QRKLVEAEAAASQACLAGKPGPTPASHP/ PGDGLPCPLSAPTLSPAT/ALPLP/SP*RSP NHSAN/PNPLSPTSSVKHSRCSPPHSALPL STPKATPPSPNHRAGLFSSPLAPMSTS*L LQKNCVLVRAPAPTSYIPVFFMTPAQCP VFLSAQ
823	8874	B	1765	1	1359	MGIKNSKRGSLPLAAPALLKPDTLWSCIF GEGDLGEEDMPPDPQAPSPAILPPNHAF GLWPFYRTQTHPQEAADPAAAYHPEP PPLILAGVRFERSNPALPENGKGAWRGDG VAEGHAALWVLGLRCERSVTAALAART REHDGRWREGAEKGPRRRWVVRAIQTP RLGKALIHCVTTTRGSLWVNSSVSAGSER DQRADHAAAQTSACAGAVACGLLLLLLV RGQAWVKKQNLSPETRTKELVVSLMPL PHPGQGHNLASRAKARTQPPVPSGPTHGA GAGESCPCEGRQAGVQTFLGIPFAKPPPL VRCDLHPLSPLNLGVVWGWNHPSGHIY TPAHSHEGSNLPWHRQARNRQLGYLDQ VAALRWVQQNIPTLEATLTVSPFLASLR WHECVFACCVPHIPRTFHGAIMESGVAL LPGLLPAQLMSSPRFGPCVFYEFQHQP WLKNIRPT*
824	8875	A	1766	2	597	RWLIPKVMRIYDTQKKMDREASQAALQ KMLTLLMLPPTFGDLLREEYIGDNGDPQ TLQAQFQEMMADSMFVIALQVAHFQC SRAPVYFYEFGHQPWLKNIRPPHMKAD HVKFTEEEQLSRKMMKYWANFARNG NPNGEGLPHWPLFDQEEQYLQNLQPA VGRALKAHRLQLWKKALPQKIQELEEP EERHTEL
825	8876	A	1767	3	1867	IHPAPRLGKALIHCCSFPQPLGEQQRV RRQRTETSEPTMRLHRLRARSAGACGL LLLLVRGQGQDSASPIRTHTGQVLGSL VHVKGANAGVQTFLGIPFAKPPLAGPLR FAPP*SPLESWSGVRDGTTHPAMCLQDL TAVESEFLSQFNMTFSDSMSDECLYLSI YTPAHSHEGSNLPVMVWIHGGALVFGM ASLYDGSMLAALANVTVVVIQLPPGGV LGFFSTGDKHATGNWGYLDQVAALRW VQQNIAHFGGNPDRVTIFGESAGGTSVSS LVVSPISQGLFHGAIMESGVAL/LLPGLIA SSADVISTVVANLSACQVDSEALVGCL RGKSKEEILCN*TSLFKMIPGVGGMGVF LAQGTPRELLASADFQPVPSIVGVNNE FGWLIPKVIEDLIDNPEGKLGQERASQV VLQKMLTLLMLPPTFGDLLREVYIGDNG DPQTLPKRKFKQKMMADSMFVIALQV AHFQCSRAPVYLTSSQHQPWLKNIR PPHMKADHGDELFFVFRSFFGGNYIKF TEEEQLSRKMMKYWANFARNGNPNG EGLPHWPLFDQGGAITLQNLQPAVGP GL*KAHRLAQFWKALPQKIQELEEP RHTEL
826	8877	A	1768	2	288	CPNSSPGSASEVGCARSQSSLLRSLPRC DGWPWAEAGA/MCAGRNLTSVGRY/ YSSR*QDEES*TARHLLCAPQTHQRRR PCRQGRNFCHIPC
827	8878	A	1769	1017	1463	PRGPWSQGEPKWLLARQAAGCCPPGAC LWGHSPAGACSPCAAKGSRYSRVPASS GTPAGK\GWQLLAREGEQEAGLCIEASQI GVPNSSPRKRQR*DVPDRGSPVC*EVFP RCDGWPAEAGASVQGGTSPPVSFNRM TSASTPNIW
828	8879	A	177	1	152	PGAMAVLLETTLSDVVIDLYTEERPRGE A*APLTCRRGPRACLPTFPSLR

829	8880	A	1770	1	1181	MAAYKLVLIQHGESMWNPENRFSSWYN TDLSPAGHKEAKCGRQHSGLIGLNKAE TAAKHGEAQVKIWRHSYDVPPPLMEPD HPFYNISKDRRFANLTEDQLPSCESLKDT IAKALPFWNEEIVPQIKEGKQPKYPFEKR LEVVNHYFTTDDGYRIISARFGVPRTQV RTWVALYEKHGEKGLIPKPGVSADPEL RIKVVKAVIEQHMSLNQAAAHFMLAGS GSVARWLKVYEERGEAGLRALKIGTKR NIAISVDPEKAASALELSKDRRIEDLERQ VRFLETRLMYLKKLKAHAHPTKKAEEIP RSTFYHHLKALSKPDKYADVKKRISEIY HENRGRYGYRRVTLHLHREGKQINHKA VQRLMGTLSLKAIAIKVKRYRSYRGEVG QTAPNVLQRDFKATRPNEKVVTDVTEF AVNGRKLYLSPVIDLFNNEVISYLSERP VMNMVENMLDQAFKKLNPHEHPVLHS DQGWQYRMRRYQNILKEHGKQSMSRK GNCLDNAVVECFGTCLKSECFYLDEFNSI SELKDAVTEYIEYYNSRRISLKLKDLIAS CLTVQLFGVSTLEGLSEEAIMELNLPTGI PVVYELDKNLKPIQFLGDEETMRKAME AVAAQVEDEYNLYGDVTTVSSLTPEKL APEVKENVPERLNILLQVGGRSRTNLNR VRVPIHKHPSIRDPNQSASLNKLTDKMD SLWLKSKNRPKGPWKGEKAVKLFVSLE NAAKPVFLQPSQRRVPGNNGSWEFPS*S RKSGISIGAVKRPTH*GS*KASSIS*NAAY VSKKAESLSSSHEKGCSDTAQYVLLSSK GSQQA*QVCGR*KAY**DLSRE*RPRIIP* GNAVSSSRRETD*P*SCSAPDGNPLT*SS D*GOAIPLLQRRGRANRP
830	8881	A	1771	362	551	DRLDPHSAAH*GAKSSPLAATSQWHL ALSRGSGSLYKCTEVKQMSNS*PASRSA CPPPSPPR
831	8882	A	1772	2318	3200	FMPLHLDDGGYCSAEGFSSRYEHGLMK DLSRGSLSPPGERACEGVPSAPQNPPQR KKVSLLEYRKRKQEAENSAGGGGDSA QSKSKSAGAGQGSSNSVSDTGAHGVQG SSARTPSSPHTKFFPSHSSMSHLEAVSPS DSRGTSSSHCRPQENISSRWGSHISRTT P/SKEGASPRSSEAA*G/SAQKGESPTWE SNITEKSDPADGEGPETLSSALS*RSNSF TALSRYSYQT/PLAPFTGTPGYFSSQPHS GNSTGNSLPRRSCPSSAASPTLQGPSDSP TSDSVQSSTGT
832	8883	A	1773	53	1025	GTRHLEAVSPSDSRGTFLSHCRPQENISS RWMVPTSVERLREGGSIPKVLRSSVRVA QKGEPSPTWESNITEKSDPADGEGPETL SSALSKGATVYSPSR/SATSSCSVIVLGQN HKASFSRVPPSEDIPQSPGYSYRTTAL RPGNPPSHGSSSSLSTSYSSPAHPVSTD SLAPFTGTPGYFSSQPHSGNSTGNSLPRR SCPSSAASPTLQGPSDSPSVFSFVPAQE L*ASTS/SSSEI/PRSSLAIRLTD*SVCPVLG QSAGYQGLQGICGFQFTALPHTVGVGFS TQYRIPSPLQGSRSQDSRRGLFLGLLGF GKQN
833	8884	A	1774	1	414	AENTILSLMFGKSWGSLSECCALLPGT PTATRLQSLTRRSSLKRG*GPQIPAARP REGSRIGTCTSS*PGLRTEAHRSLRNRQA GVSSPFQLSPALKPRKSPQATGQRP*G QWGQKSGSALLPTNTTHVEA
834	8885	A	1775	1	458	ENTILSLMFGKSWGSLSECCALLPGTP TATRLQSLTRRSSLKRG*GPQIPAARPR EGSRISQNVGDGGKENRYRGFGGPPGT KSDPGHQHG*GGEGLWGSWRSGKSGPAI ATGAIASPATQLLRVNPDTGDWDVYFLL TLVSGRLRTGA

835	8886	A	1776	1	1387	HSMGWKEHVDREGGHTKGMVFSVLQPA CWLPRERPFQLRLCLIEDPLRLCGQGR GRGQETTSGLILLSHVGTFLRDRWTLTSL WPCPRALLVFLSHSCEVMGAGAPGVSLP EGQLSPLPWLVQGRSSRRAPDSGQGPLG PPGLADVSMRGRAPGTSMCGS/RSTPVPP QSPGG*VSMPATPGIGFLCRLPHKSAPEG P/GGFGFLFFIKHLKQHCSLPSRGLSITA STCVVLVGSKADPDPCPHCPHPLTSS LRGAFSR/PSEQGRAGRGLESSRLSVSQ SCEASVLRPESRGSTHP/ISPVSGFTLRW VAGEAIAPVAIAGPAGAGLR/GLRGALRP AHGHPRL*SPGNPISPSSTSPCLMPQGH CLPAGPPNPRCLSSFPSPTLVLTNPASLS GPGRDLGSLKSLKSNFCGSDSEAELL VGVPGRAPHSLLKLPQLFPENIKLRIVFS AKKKKK
836	8887	A	1777	46	591	LSPPKPQKQSQEQNPFCQRWALGKQLGP PQGGQEG/QGPPDSLVLPGV/PPVPLFVG GNLPHPPPPVQPQRNKGRQTEGSCSPFF KGQHNS/PCGPQPS*AHPLRHGSGDQAQ PTSAP/PPCR/PES*PQADEMPTCCHNTG KAL/GPPSQEGMEPGGPQPGPSRSTQSSV AHLTSGTAVRPGLGSP
837	8888	A	1778	1412	1673	KRCPINRFPLECLPLPHLMGIPPEGHFHH PLMGE**NPPCSIQDPHCVTYFETPPVNL CPSTRPEVGVWEGGPSSPFAFEAPGLKG
838	8889	A	1779	646	1098	MVELLVTFPPFSQLQLYFQLTYSFTELL KVPLMVLFGMPMKKHFLKPTVSDQW ENNRKLKRRISR*FSCRKV*V*IACHKF CLVLREA/HMHWLILCAKKRF/PPLKKLT WLGVMVSHTCNPSTLGG*GR*TA*TQEFK TSLDNMVKPHLF
839	8890	A	1780	1112	2085	RHSHAVQKKPLSGGGAGAMAVLLETTL GDVVIDLYTEERP/RCQLYGDQASFEAE KVPRIKHKKKGTVMVNGSDQHGSQF LITGENLDYLDGVHTVFGEVTEGMDIHK KINETFVDKDFVQDIRINHTVILDDPF DDPPDLLIPDRSPEPTREQLDSGRIGADE EIDDFKGRSAEEVEEIKAEKEAKTQAILL EMVGDLPDADIKPPENVLFVCKLNPVTT DEDLEHFSRFGPIRSCEVIRDWKTGESLC YAFIEFEKGGGAYGKTPATRPFGSWPF AGLLTCSFLRYPLILWITVLPPLSELPL AAAERPSAASQ
840	8891	A	1780	109	943	WAKLGKGPAKR*PQALGASAPSAlyPR HVAPARAPGRTKGAGSSCRNSPRQVVRP QPWQWGGGAQSDVSP*GQTPRGGSFER SSSCSGHTGLVGKERRPLSLEGP*/SPEDP PRARHGGPQGREHPPWFSRPLCPEAGP EPRAPAWTSDSIGERSTGG/PSRPASKGP VPSAQRAGQTPGNPEAAGSLSLPCRALP QGREAPQPQPPPYLPLKLERGILVFALSK IFKN
841	8892	B	1781	98	195	GLCLGQEVGQEDLVMQTLPGVGLGLDR DEEVTG*
842	8893	A	1782	2	1556	

843	8894	A	1783	2	1928	ARGAPRLRAAGAPSSSARVSLVSPSPA MAALTRDPQFQKLQWYREHRSELNLR RLFDANKDRFNHFSLLNTNHHGHLVDY SKN/LLVTEDVMRMLVGLWPKSRGVEA ARERMFGVEKINYTEGRAVLHVALRE TGFKTHPILG*NGKDVMPENVKVLDKM KSFQQRVRSGLKGYTGQRPFTDVINI WIGGSDLGPLMVTEALKPYSGGPRVW YVSNIDGTHIAKYLALNPESLFIASK TFTTQETITNAETAKEWFLQAAKDPSPA VGEDFLFALSTNTTKVKEFGIDPQNMFE FWDWVGGYSLWSAIGLTSIALHVGF NFEQLLSLAHWMDQLFRDAPGRKNAP VLLALLGIWYINCFGCETHAMLPYDQYL HALLRTSSRAITWSPMGNTSPNLEPVWT TRQAPLCGGSQGPMSMLFTSCIHQGT KMIPCDFLIPVQTOHPIRKGLHHKILLA NFLAQDRGP**GGKSTEEGPKGASRVAG KSPEDFERLLPHKGL*KGNRPVTFYVFT KVVTPIQLGAWSPMYEHKILRFRVWADI NSF*PSGELELGKQPLRKLEPELDGSA QVTFQDVSTNGLINFIKAAAARGPRVPINS VLICSLCDSHFFSSLSFSPKPELIVP
844	8895	C	1784	127	435	MAASXNPEVLDITEETLHSRLEGVRNV ASVCLQIGYPTXASVPHSHNGYKRVLAL SVETDYTFPLAEKVKAFLADPSAFVAAA XLGCCHHSCSXCCCSPS*
845	8896	A	1785	112	1161	RTAVMPREDRATWKSNYFLKIIQLDDY PKCFIVGADNVGSKQMQQIRMSLRGKA VVLMGKNTMHAQAPFEGTL*NNPSLWR KLLPHIRGEFGLLFHPGRTLTEIRDMLL AQ*GCPAAARPGAICPHVKVTVASPRTL GLGPEKTSFFPGL*VSPTKNLQGAPIENP EVNVPASRTGDQSGEPSESHGWLNMLA NISPFLLGWVIPARCSTNGQHSKPLK VLGLFTGGKLLQFSAFLGGVSRKCLPSV CLPELAYPNCCNQYPSIINGYKRVLAL SCGDGITPFPLAEKVKAFLADPSAFVCC CNLWVAATTACFA/AAAAAPAKVEAKE ESESEDEDMGFGFLD
846	8897	A	1786	2	355	RSITCKTEARMMLLAWVQAFVLSNMMLL AEAYGSGGCFWDNGHLYREDQTSAPAG LRICLNWLDAQSGLASAPVSGAGNHSYC RNPDEDPRGPWCYVSGEAGVPEKRPCE DLRCPGGRI
847	8898	A	1787	1	771	MLLAWVQAFVLSNMMLLAEAYGSGGCF WDNGHLYREDQTSAPAGLRCLNWLDAQ SGLASAPVGYCRNPDEDPRGPWCYVSG E/AGVPEKRPCEDLRCPETTSQALPAFTT EIQEASEGPGADEVQVFAPANALPARSE AAAVQPVGISQVRMNSKEKKDLGTLG YVLGITMMVIIIAGAGIHLGYSYKRGKDL KEQHDQKVCEREMQRITLPLSAFTNPTC EIVDEKTVVHTSQTTPVDPQEGTTPLMG QAGTPGA
848	8899	A	1788	48	375	KGLIKPFGHRTPERKK*LAQGRKQATGM ARAQLPDGAQHFSALC*QLSRASNL*C HTQEALAPSHKASFSEPHLPMGRRVN GAFYGAIWFGDLNLKWSGCGNDAG
849	8900	A	1789	6	902	LQGWDEAEPPPRGPRNLNTRGSITCKTK EARMMLLAWVQAFVLSNMMLLAEAYGSG GCFWDNGHLYREDQTSAPAGLRCLNWL DAIQAGLASAPVSGAGNHSYCRNPDEDP RGPWCYVSGEGGVPEKRPCEDLRCPVE TTASKALPAFTTEIQGNVKGPSADEVQ VFAPANALPARSEAAAVQPVGISQVR MNSKEKKDLGTLGYVLGITMMVIIIAG DGILGYSYKRGKDLKEQHDQKVCERE MQRITLP*SAFTSPTCEIVNEKTVVHTS

						QTPVDPQEGSTPLMGQAGTPGA
850	8901	A	179	3	492	GGGAGAMAVLLETTLFYVAIFLYTEKR PRACGNFLKLCRIKYNYCLIHNVQRDFI IQTVDTTGTGRG*ESIFGQLYGDQASFFE AEKVPRIKHKKKGTVSMVNNGSDQHGS QFLITTGENLDYLDGVHTVFGEVTEGMD IKNINETFVDKDFVPYQDIRIN
851	8902	A	1790	1	1995	LGRPTRPAPTFWAVAVRTRCLAERRQE LMGALCYPPQGDRLQKSWIFFRPVMA DKLTRIAIGNHDKCKPKRRQECKKSCP VVRMGKLCIEVTPQSKIAWISETLCIGCG ICIKKCPFGALSIVNLPNLEKETTHRYC ANAFKLHRLPIPRPGEVLGLVGTNGIGKS TALKILAGKQKPNLGKYDDPPDWQEILT YFRGSELQNYFTKILEDDLEAIKPQYVD QIPKAAKGTVGSILDRKDETKTQAIVCQ QLDLTHLKERNVEDLSGGELQRFACAV VCIQKADIFMFDEPSSYLDVKQRLKAAIT IRSLINPDRIIVVEHDLVLDYLSDFICC LYGVPSAYGVVTMPFSVREGINIFLDGY VPTENLRFDRASLVFKVAETANEEVK KMCMYKYPGMKKMGFEFELAIVAGEF TDSEIMVMMLGENGMGKTTFIRMLAIGS LKPDEGGEVPLNVSYKPKISPKSTGS VRQLLHEKIRDAYTHPQFVTRL**KPLQI ENIIDQEVQTLSSGELQRVTLAL*LGQN LPDVYLIDEPPAIYLDSEQRMAARVV KRFIPHAKKTAIFVVGWTFIMATYLAAD RVIVFDIGVPSTKNTVANSPTLLGWA*I NFWSSAWKFTFQEELQNTYWPRINKLI SLEDVDQKKSGMYFFLDD
852	8903	A	1796	1217	2829	GARSEAAEFQSSASCRRLRGGGGPGTPG RGGALLASLLPPCRTPPDPPDGSCRTRP LLSPLGKLSAPPRPRPLFVVAQAGHAPQ GLLPTSRPAAPATAGSRNMSTLLSAFY DVDFLCKTEKSLANLNLNNMLDKKAVG TP/VAAAPSSGFAPGFLRRHSASNLHALA HPAPSPGSCSPKFGAANGSSCGSAAAG GAVGGRRTALLNKENKFRDRSFSENG RSQHLLHLQQQKGGGGSQINSTRYKTE LCRPFEESGTCKYGEKCQFAHGFHELRS LTRHPKYKTELCRTFHTIGFCPYGPRCHF IHNADERRPAPSGG/ASGDL/RPTSRTPPP PSCSSASSCSSASSCSSASAASTPSGAPT CCASAPAAAAAALLYGTGGAEDLLAPG APCAACSSASCANNAFAFGPELSSLITPL AIQTHNFAAVAAAAYYRSQQQQQQGL APPRAP/APPSATLPAGAAAPSPPFQFL PRRLSDSPVFDAPSPDLSLDRDSYLSG SLSSGSLSGSESPSLDPGRRLPFISRLSISD D

853	8904	A	1797	731	2553	GARSEAAEFQQSASCRRLRGGGGPGTGP RGGALLASLLPPCRTPPDPPDGSCRCRTP LLSPLGKLSPPRPSVIRGGSSPATPPQG LLPTSRPAAPATAGSRNMWTLVSAFYD VDFLCKTEKYLANLNLNNMLDKKAVG TPVAAVAPSSGFAPGLRRHSASNLHAL AHPAPSPGSCSPKFGAANGSSCGSAAA GGPTSYGTLKEPSGGGGTALLNKENKFR DRSFSENGDRSQHLLHLQQQKGGGS PDQIPTRYKTELCPFEERARAQYGEK CQFAHGFHELRLTRHVEVQDRSCAAP FHTIGFCPYGPRCHFIHNADERRPAPSGG ASGDLRAFGTRDALHLGFPREPRPKLHH SLSFSGFSPGHHQPPGGLESPLLLDSPTS RTPPPSCSSASSCSSASSCSSASAASAP SGAPTCCASAAAALRLLYGTGGA*DLL APGAPCAACSSASCANNAFAFGPELSSLI TPLAIQTHNFAAVAAAAYYRSQQQQQQ QQQGLAPPAOPPAAPPATLPAGAAVAPP SPWFSFQLPRRLSDSPVFDAPPSPDLSLSD RDSYLSGSLSSGLSGSESVPFDPGRRLP IFSRLSISDD
854	8905	A	1798	146	403	RKLDVYFEYEEKIMSKTTLDKSLDDIISD PDAGTPEDKMRVFLIYYISTQQAPSEAF TKMASAPASYGSTTTKPMGLLSRVMT G
855	8906	C	1799	47	235	MXVXCNIQXLVSYRAINRPDITDTEME TVMDTIVDSLFCFFVTLGAVPIIRCSRG SSKKW*
856	8907	A	18	246	730	SSIMTFLESSAVPPHWTGQDGRVCWTG WIPQCQAGSAPE/RS*VFINSAGQKSADT GWSSSKPQN*QLSSTGAALPLASLSRER AWVDDGKHRLTTPMTVPQRAVQQL*E TSG**DWRQKVQIFQQAVVGMIQPSHSQ FLOREDVIMLRPFGLHLSWEENG
857	8908	A	180	1	451	MGFRHVGQAGLELLTSGDLPASAYQSA GITDVSHCAQPASPLSYFLQALKHEFVV RHLTPGHLDTQTPDTKKPGHPDTQTLDT QTPSHLTSRHPDTQTADTQTPDTQNLTP GPPDT*HPDTWHLTPDTQTPGHPTLRHP DTQIPRHPET
858	8909	A	1800	48	2100	PAPGLPVLPRVEVFLEEPGSGSWEPRWR RRRQRQQQQQPSFRKDSQLSCVYCLS MCLILKTAQEHYPYGRYSLMHRFGQDIFS PLLSVRELDMGITLHLLHSDRDPIDV PAVYFVMPTEENIDRMCQDLRNQYES YYLNFISAISRKLEDIANASVRGLSAIVT QVAKVWDQYLNFTLEDDMFVLCNQN KELVSYRAINRPDITDTEMETVMDTIVDS LFCFFVTLGAVPIIRCSRGTAEMVAVKL DKKLEENLARDARNSLFYRVDTLGAGHF SFQRPLLVLVDRNIDLATPLHHTWTY*A LVHVDVDFHLNRVNLEESSGVENSPAGA RPKRKNKKSVDLTPVDKFWQKHKGSPF PEVAESVQQELAESYRAQEDVKRLKSI MGVLEGEDEGAISMAF/SDNTAKLTSAVS SLPELLEKKRLIDLHTNVATAVLEHIKAR KLDVYFEYEEKIMSKTTLDKSLDDIISDP DAGTPEDKMRLFLIYYISTQQARSADL QQYKKALTDAGCNLNRSYIKQ*RAFT KMASA*AGYGSTTTKTMGLLSRVLNT GSQFVMEGVKNLVLKQONLPVTRILD NLMEKKSNNPRKLMYRYFDPKNACGG NDSSVVPQKLKIPFRGHSFFVGEEGNYI NEYQNLCDYIKGKQKHLIYGCSELFN ATQFIKQLSQLGOK
859	8910	A	1801	1	394	

860	8911	A	1802	3	536	RIYIFRV/PMASCD/FSIRT/YTNADTPDDF QLHNFSLPEEDTKLKIPLIHRALQLAQR VSLASPWTSPTWLKTNGAVNGKGS LKGQPGDIYHQTWARYFVKFLDAYAEHKL QFWAVTAENEPSAGLLSGYPFQCLGFTP EHQGGSLKAAAGVPRHPDDSYGTSQEK WQLLKEKMFEPPK
861	8912	A	1803	192	2035	GRYLHPCFCLVDPLSFRDSGTPVVFSSSN DPEGMEFSSPSRECPKPLSRVSIMAGSL TGLLLQAVSWASGARPCIPKSFYSSV VCVCNATYCDSDPPTFPALGTFSTRYGE /STRSGRTGWSLSMGPIQANHTGTGLLL TLQPEQKFQVKVGFGGAMTDAALNIL ALSPPAQNLLKSYFSEEGIGYNIIRVPM ASCDFSIRTYTYADTPDDFQLHNFSLPEE DTKLQDTPGFHRALQLAQRVSLASPW TSPTWLKTNGAVNGKGSLLKGQPGDIYH QTWARYFVKFLDAYAEHKLQFWAATA KNEPSAGLLSGYPFQCLGFTPEHQDRIA RDLSPTLANSTHHNVRLMLDDQRLLLP HWAKVVLTDPEAAKYVHGIAVHWYLD FLAPAKATLGETHRLFPNTMLFAEACV GSKFWEQSVRLGSWDRGMQYSHSIHQ QTSWYHVVGWWTAGNLALNPEGAGPNW VRNFVDSPIIVDITKDTFYKQPMFYHLGH FKQSSIPEGSQRVGLVAISQKNDLDAVVA LMHPDGSVVVVLNRSSKDVPLTIKDP VGFLETISPGYSIHTYLWRRQLDGADYS RRHWGSAGAFKGTESAHTLSVTKEGTA GPV
862	8913	A	1804	113	1799	PSAYSYGRYLHPCFCLVDPLSFRDSGTPV LFSSSDPEVMEFSSPSRECPKPSGRVSI MAGSLTGLLLQAVSWASGG/RPCIPKSF /SYSSVVCVCNATYCDSDPPTFPALGAFS RYKSRSSGHWMELSTG/PIQANCTGTGL LLILOPEFQVKVGFGGAVTDAGALNILA LSPPAQNLLKSYFSEEGIGYNIIRVPM AS*DFSIRTYTYADTPDDFQLHNFSLPEE DTKLKIPLIHRALQLAQRVSLASPWT SPTRLKTRGAGNGKGPLKGQPRDIYHQT WARYIVKFLDAYAEHKLQFWAVTAENE PSAGLLSGYPFQCLGFTPEHQDRIARDL GPTLANGTHHNVRLMLDDQRLLLPHW AKVVLTDPEAAKYVHGIAVHWYLDFLA PAKATLRETHHLPNTMLFAEACVGSK FWEQSVRLGSWDRGMQYSQSIKKLPV PMWVGWEPNW/ITPSL*NITQATRFNKQ PMFLPPLANFSKFIPVGSQRVGLVAISQ KNDLDAVALMHPDGSVVVVLNRSSK DVPLTIKDPVGFLETISPGYSIHTYLWR RQ
863	8914	A	1805	22	424	ALGMAHITLFFFLLFCDSLALSPRLQC SGTISAHCNLPVPGFKQFSCSLGSDY RCMPPC/RWLTFFVLFVETGFHHVQAGL ELLTSGDPPALA/FPKC*DYRRDPRAWA LFVFLT*FFSKLKYHKAKEKWS
864	8915	A	1806	14	253	LIPCGPQLFNCLSL*PGFWAMVKFAWVQ YVRSCLSSSGCLKESRSSCESGGDHHPL SSTSLPLSLFMLCKEVLLESGR
865	8916	A	1807	318	455	
866	8917	A	1808	1960	2150	CFVTSNLKCSK*GRAWWFIPVISTLWEA KVGGSLPRSLRLQCAMIAPLYCSLGR VRPYLLK

867	8918	A	1809	2	1345	GVVPPGLLAGEGVCQLLRHSSPGRCLLK SRARGSVIMSRYGRYGGETKVYVGNLG TGAGKGELERAFSYGPLRTVWIARNPP GFAFVEFEDPRDAEDALRGLDGKVICGS RVRVELSTGMPRRSRFDRPPARRPFDPN DRCYECGEKGHYAYDCHRYSRRRRSRA ENLRR*SP*Q*IWLTIGAPLRFKRNRTRLT TFPTRKIFLRQSSLTWLIWLSV*SSLD*RK HLDAAIGYRYF*IV*Y*TMGQRGSTCKL ARFMLNTHYSVLYVVMSCNSAFNKSF FR**KKKYSTTNRPVYFQMRH*I*IVLR FDFSRGTQLKNELLSDLFFL*LEK*SR RSHSRSRGRRYSRSRSRGRRSRASPR RSRISLRRSRASLRRSRSGSIKGSRYFQ SPSRSRSRSRISRPSSRSKSRSPSPKRS RSPSGSPRRSASPERMD
868	8919	A	181	143	647	LRSRCVQIQGSPATEPVSGSHCADTGLVI RGGALSAHAIAPGQRLSHALHTASAYIN SGRMWDTVHLPQKRCVRPRPQGRV RTP RTRATH/NRVVGARRGTPQRYTG/WGRD *EPSLSQLPQNGDLLAARRREHPACSTG CTSGARVRSRVWRAGQALVPGCAGCAY ILH
869	8920	A	1810	1	840	VVPPGLLAGEGVCQLLRHSSPGRCLLK RARGSVIMSRYGRYGGETKVYVGNLGT GAGNGELYRVIR*YGPLRTVWIARNPPG FAFVEFEDPRDAEDAVRGLDGKVICGSR VRVELSTGMPRRSRFDRPPARRSFDPN GCYECGEKGHYAYDCHRYSRRRRSR FRSHSRSRGRRYSRSRSRGRRSRAS PRRSR/SPISLRRSRASLRRSRSGSIKGS RYFPIPRRRSRSKIPGLFHGPRSSRSK/SRS PSPKRSRSPSGSPRRSASPERMD
870	8921	A	1811	20	701	DHASGQSTASSGPDVSGQLQPSQPNAD QGKLTMTMRIAIVICFLLGITCAIPVKQAD SGSSEEKQLYNKYPDVATWLNPDPSQ KQNLAPQNGCVL*RNQ*L*TRITLPSKS NESHHDHMDMDDDVGDVDDHVDSDSI DSWDSDDVDDTDSDHQSDESHHSDES DELVTGFSTDLPADEVFTPVVPTVDYD GRGDSVVYGLRSKSK/KFRRPDIKYPDA TDEDI
871	8922	A	1812	121	1206	LIAGSTHACAHASGRAQHRRDQTRLKAS CSLLSQTPTKENSLPRELPVICFLLGITC AIPVKQADSGSSEEKQLYNKYPDVAT WLNPDPSQKQNLAPQVTLPSKSNESHHD HMDDMDDEDVDDHVGTDARDSIDSND SDDVDDTDVDSHQS*WSLHHS*WNLDE LVTGFFPTGPCGNRSFIPVCSPTVDY DGRGDSVVYGLRSKSK/KFRRPDIQYPD ATDEDITSHMESEELNGAYKAIPVAQDL NAPSDWANRGKDSYGTSKLD*QSAETH R/HQQSRLYKRKANDESNEHSDCDW*A RTFPKVSRE/FHSHEFSSHGDFACL*PPK SKEEDNTPLEFRYSPGIRMWHFWGSI
872	8923	A	1813	171	459	
873	8924	A	1814	1	235	
874	8925	A	1815	292	1396	AQATGPYSRICACAKGAMAASCVLLHT GQKIMPLIWSWGTWKSEPGQVKA AVK VLPLALGYRHNDGVIYGNELEIGEAL KGRTVGPGKAGCLRGRKPGFVTSKLWA NTKHHPEGMWSLPLRKDSGLTFQLEVL DLYLMHWPYAFERGDNPFPKCDWNI WLDSPHYKET*RALKALVAKGLVQA/V WGLSNFNSRQDDILSVASVRPAVLQV EHPITGLKMRLIAHCQGTWAWR*TAF NPLGLPLNRAWDPDEVPAGGNPVVL GIGLKKYGRSPSESCLRWPGPSGKVNCI PKSITPFSNPFRTFKVDFTFSPPEEMNQ



						LNALNKNWRYIVPMLTVDGKRVPKD AGHPLYPFNDPY
875	8926	A	1816	133	402	LLTSLVNSRILILFINSKKIFAIHIFSTRGGIL RITAVIWNNISVTHGNGDMALAQYSMP VPA*AIGRRILVMLYPSRTEAFEKFLIRC
876	8927	A	1817	356	463	
877	8928	A	1818	81	728	TRGPPPAEEMDEDGLPLMGSGIDLTIVP AIQQKRTVAFNLQFVVHTVQFLNRFST VCEEKLADLASLRIQQIETTLNILADAKLS SIPGLDDVTVAEVSPFKLSPSVTNGVAHP* RPLSEIQPQPEPVPPGLLDLQES*SIQAGN FL*L*PKDPARYARYLKMVQVGVPMMA IRNKMISEGLADPDLLERPDAPIVPDGEIS EKTVEESSDSESSFS
878	8929	A	1819	1214	1565	LKEITDEM VYRTLHSHRIKMVSPPIFFS TNTVPFFPCYNPFFMNIQEMTKVTASRLF LFFVDLLQGVQPCFLCCCLCSIWFCNEH LDL**ASDFVMCMCVYMHYITPIHV*YI HYIYVDTY/MEVCIHLYII*CV
879	8930	C	182	225	335	MLARLGSNSWTSSDPPTSASQTAGITGV SHRAGPLT*
880	8931	A	1820	1	1044	MAEKFDCHYCRDPLQGGKYVQKDGHH CCLKCFDKFCANTCVECRKPIGADSKEV HYKNRFWHDTCFRCAKCLHPLANET/FC GQQQDPCNKCTTREDSPKCKGCFKAI VAGDQNV EYKGT VWHKDCFTCSNCKQ VIGTG SFFPKGEDFYCVTCHETKFAKHC VKCNKAITSGGITYQDQPWADCFVCVT CSKKLAGQRFTAVEDQYYCVDCYKNFV AKKCAGCKNPIT/GEKDCVKSEPPSL*S* EAPSVPRETLASHPVSQRQPPQASGWR EDLSLVGGGSL*KKSKLSSSSWPGFGK SSVVAYEGQSWHDYCFHCKKCSVNLAT KRFVFPQEQVYCPVCAKKL
881	8932	A	1821	235	1119	GPSSYKVGTMAEKFDCHYCRDPLQGGK YVQKDGHHCCCLKCFDKFCANTCVECRK PIGADSKEVHYKNRFWHDTCFRCAKCL HPLANETFCGQGGQRSCATSCTTREG PPSAKGCFKAIVAIGDQNV EYKGT VWH KD\CFTC SN\CKQVIGTG SFFPKGKDFYC VTCHETKFAKHCVKCNKAIASWGVTY* DEPWHAEGFVCVTCSKKLAVQHFTTVE DQ*YCVDCYKNFVAKKCAGCKNPITGF GKGSSVVAYEGQSWHDYCFHCKKCSVN LANKR FVFHQEQVYCPDCAKKL
882	8933	A	1822	222	622	KCSSSKHFTKEDSQITNKHIEKCSS*LLV REMQUIITKSVAIHQNG*NENTKQTCQ/ DIDNDMQQWEFMR*EWANW*N*KTNW Q*LLRLDKCVSYDPAIPFLDISPTERHIY AYHKTCIRMFKATLFKIAPNI

883	8934	A	1823	75	1402	VRRRTLSSRRWHRLSHGPRWLPQVLTAS PPLQARGAFRSFPHSWGEDFLASLMFKI QLEPLKLRAWTLNGFVKFRNKETSAGPV AVMGKDYYKILGIPSGAINEDLIVCAYRT MALKYHPDKNKEPNABEKFKEIAEAYD VLSDPKWRGLYDQYGEGLKTGGGTSG GFRGFVHYTFYGDPHATFASFPGSNPF DIFFASSRISTRPFSGFDPDDMDVDEDED PF/GALFGRFGFQWG*VGGPRRAPGTIV TLGRQGCRRDPVVVHELRSLEEYHGST KRMKITRRRLNPDGRTVRTDKILHIVIK RGWKEGTKITFPKEGDATPDNIPADIVF VLKDKPHAFRRDGTNVLYSALISLKE ALCGCTVNPLFDVGRGIPPCNDVIKPG TVKRLRGEGLPPFKVPTQRGDLIVEFKV RFPDRLTPTQTRQILKQHLPCS
884	8935	A	1824	245	486	
885	8936	A	1825	63	1820	RVDKGGGLAAGLRPLGRGSRACVREER EREGRLRGDFQPASLLSRGAINAPNFPAC LKEEEDLSKAMSQDGASQFQEVIRQELE LSVKKKELEKILTASSHEFEHTQKKTWM DFRKLFRHFLQRKGAFWNLGEKFQRP P*DSIQPYEKIKARGLPDNISSVLNKLVV VKLNGGLGTSMGCKGPKSLIGVRNENTF LDLTVQQIEHLNKTNTDVPLVLMNSFN TDEDTKKILQKYNHCARVKIYTFNQSR P/INKES/LYFPVAKDVSYS/GENTEAW YPPIGHGDIYASFYNSGLLDTFIGEGKE YIFVSNIDNLGATVDLYILNHLMNPPNG KRCEFVMEVTNKTTRADVKGGGDNLQ YGRANLRTWWEIAQVPK/AHHVDEFKS VSKFKIFNTNNLWISLAAVKRLQEONAI DMEIIVNAKTLGGGLNVIQLETAVGAAI KSFENSLGINVPRTRFLPVKTTSDLLV MSNLYSLNAGSLTMSEKREFPTVPLVKI RPVLFKRVQDYLKGFKEIQRLELDHLA TVSGRCDHLEKNGFIKGEPIHPLQIHGD RMDIPTWEPVFREPRLVSGNLRILDH
886	8937	A	1826	48	239	GRAETMSDIEEVVEEYEEEGQEEAAVE EEEDWREDEDEQEEAAEEDSEAEA*D/T RETRAEEDE*YEDASDAEDGPMEESELK PWS*RPNLVLP*VLI*FIVVYVDLHRLC ME*DE
887	8938	A	1827	78	357	
888	8939	A	1828	3	327	
889	8940	A	1829	1	429	RAEVALKKKKALSSMRAHYSSYLAKA DQKRGKKQTAREMKKKILAERRKPLNID HLGEDKLKRDKAKELWETLHQLEIDKFEF GEKLRKLYDITTLRSRWDSTSSSPHNP VRGSLTVLGVERPSRGVPRVCVLAAPFIP WGL
890	8941	A	183	1108	1627	PMDQVMCRT*KG*MGGQRDVSPASEQ VSTARPGPRAVIDYSKADAWAVGAIAY EIFGLVNPFGYGGKAHLESRSYQEAQLP ALPESVPPDVRLVRLALQREASKRPSA RVAANGVLHLSLWGEHILALKNLKLDKM VGLAPPKIGRHFVGTGSQEEVVVLETK NEDALFG
891	8942	A	1830	3	986	HTPATQSLANGLGRSNVTITRGCEPGA SACSRCCPQGAPALLTDPQKPPTFTMS DEVEQVEEQYEEEEEAQEEAAEVHEEV HEPEEVQEEKPRPKLTAPKIPEGEKVDF DDIQQKRLNKDLMELQALIDSHFEARKK EEEELSALLERIEKRAE/RAEQQRIRAEK ERERQNRLAEEKARREVEDATRAEDD LKKKKALSSMGANYSSYLGPRLDQKR GKKIQTAREMKKKILAEVRRKPLQPSIHL GERQN*GDQGRSFWETLHQLEDLTKF EFAGEKLRKQKYDITTLQEPECRCWPES

						TSKEGLGPPAKGKVGGGRWK
892	8943	A	1831	7	1382	PPGLEARPAPARLAGSGVCSGGRGRGAG RRSRQSMRGAARAAWGRAGQPWPRP PAPGPPPPPLPLLLLLLAGLLGGAGAQYS SDRCSWKSGSLTHEAHRKEVEQVYLPC AAGAVEWMYPTGALIVNLRPNTFSPAR HLTVCI RSFTDSSGANIYEKLTGELRLV PDGDGRPGRVQCFGLEHGGVLFVEATPQ S/QDIGRRTTGFQYELVRRHRASDLHEL GECPARSSSSSSSSSSSPPARAANSHLK WRWSQRCLDVDLPLDALLSVRIL*RW WAAFQSLSRPGCFLTLPFFSAPCRPCSDT EVLLAVCTSDFA*VSPRQLSSSSSSSSSS SSSSPHLLPRTAVRGSIQQVTHEPERQDS AIHLRVSRLYRQKSRVFEPVEGDGHWQ GRVRTLLECGVRPGHGDFTGTHMHFG EPRRLCAPKASRTFQRMRYDAIQRGL NPLVGWQRN
893	8944	A	1832	1	433	NNPDFKAGV/MALPTL/LQIQRHDDYLV MLKAIRILVQERLTQDAVAKANQTK EGL PVALDKHILGFDTGDAVLNEAAQILRL HIEELRELQTKINEAIVAVQAIHFHVW KSKCHILGGSPENWVCSRDLPLLIAFF FNKV
894	8945	A	1833	1	459	
895	8946	A	1834	2	1108	SFRSDSAPARPLAASPVPAPPAPRFFSPG RGP GDQSEKRWTFMFRRLTGSSTTYSP FVFNRRDETEFRNFIVWLEDQKIRHYKI EDRGNLRNIHSSDWPKVLEKYFKDVN CPFKIQDRQEITIDWLLGLAVRLEYGR* WLKNTKDLVP**FQNLNATKNAEPF DPFWDVNNP*F*GLVLLALG*TWLQIQR HDDFLVMLKANS GFVWQEPP*PPGMP VCLRANSNKRGA*PVAFRQTHILGFD/TG DASSLMKLEILRIACT*EELRELT DQKS TKAIVAVQAIYC*SKRQDHLRGKSLEDE HFEDLQLLTYFRYMLGNHTLLACFGKSK CHNSRGEKSPEKLGYSRGFYHHWLIAS CFFL
896	8947	A	1835	1	891	
897	8948	A	1836	1	984	
898	8949	A	1837	1	1917	
899	8950	A	1838	2	1411	FVGKGPRQAEDSRCGAGRRTGRTLGE QRACVWCVPKGRKVAKGGESEWVEGG EGREEKKVGGPGGRVAHSGPTGSSA MRRVTFLNGSPNNGKAGAGYGTLSL LSGGSSKPGIKATNVYNGKGLIDIALI RDDDVLVFCGEFPIDPQTD SKPPEGLL FHTDWLTLNVGGRYFTTTRSTLVNKEPD SMLAHMFKDKGVWGNKQDHRGAFLID RSPEYFEPILNYLRHGQLIVNDGINLLGV LEEARFFGIDSLIEHLEVAIKNSQPPEDHS PISRKEFVRFLATPTKSELRCQGLNFSG ADLSRLDLRYINFKMAQFKPL*FAHANL C*ANLERTDLYGSVLD CANLQGVKMLC SNAEGASLKL CNFEDPSGLKANLEGANL KGVDMEGSQMTGINLRVATLKNALKN CNLRGATLAGTDLENCDSGCDLQEAN LRGSNVKGAI FEEMLTPLHMSQSVR

900	8951	A	1839	1	320	
901	8952	A	184	56	335	TGFCFFSRVKCNGTILGPCNL*IS/GSKYF SGL/SLPSKWDFRAPPNGNLF**TRF SPVYQDGFDFLTSCPPGLPKLLEFRGA PPLPSE
902	8953	A	1840	1	1430	MAAAEAAANCIMELPRAFGIRPSGGSYP SHVEEGWGRFRPGPHVAAAAPPPRPG HTPWGVIDLGPSTMWGVSWEEQCFSAL YQPPSELRGHLLGYRTRFCFVWSCGQA ESSEKPNADMTSKDYYI*LHTHTFGIHE EMLKDEVRTLTyrNSMFHNRHLFKDK VVLDAVSGTGILCMFCCQGPWPRKVIG IECSSYSS*LWR*RCVQANKLRPRRTSI KGKGGKVELPVGERWDIIHQVGVWGY CLFLTESMLQHRALMPRDKWLAPDGLA IFPDRAQLYVTAIRGTGRYKDSRSHLLG ENVYAGFDMSCIKADVPIKEPLVDVDPK QLVTQRLAFIKEVDIYTVKVEDLTFNL PRFCPCCLKRN*LTCTALVTLLSTFEFTH CHKRTGGTGFFHQPPRSPYTHWKQTVF YMEDVYLTERRAEEIFGTIGMRPNAK EQPGTLDFTIDLDFKGQLCELSICSTDYR MR
903	8954	A	1841	1	45	
904	8955	A	1842	2	580	GRVGGRVGCPEPAWIDIYKAAGRSSF E*ARKMSS*AAFRTSFVLGAEDGCISTQ GSWGKVMRMHGPPEHPMRELQEMIDE VDEDGSGTVDAFDEFLVMMVRCMKDD SKGKF*GRSLDLLPACFDQKMLDGYA DLVELED*LLQATGRDPFTEDDDIEELM KDGDKNNDGRIDYDEFLAEFMKGVGVD A
905	8956	A	1844	2	368	
906	8957	A	1845	28	479	
907	8958	A	1846	4	458	
908	8959	A	1847	90	769	
909	8960	A	1848	231	909	HCSQHPSLWISFCFIIPANQFIFRLCTSEA MGKISSLPTQLFKCCFCDFLVKMHTMS SSHLFYALCLLTFTSSATAGTGDGSAG AELVDALQVPCVEDRGGFYFNKPTGYG LPAVRRAPQTGVVDECCFRISCCLRLE MYCAPPQACPSQLRSVRAQRHTDMPQD PERKYI*RTQVEGVQETRTTGLLEDPGG VKSMDPPQDPLLCTSYLLNFGTPTKK
910	8961	A	185	523	817	SQHSVGPRQADRLRSVVRDQPGQHGET PSILKVIQKLPRGGACL*SLLGSLRREN CLNPGGRGCSEPRSHHCSPAWMTE*DSI SKNK*INKNEIKKK
911	8962	A	1850	141	439	
912	8963	B	1851	851	1807	MAIKSIYAALRSIYHSEHGRGLFSLTAT LLRDAPFSGIYLMFYNQTKNIVPHDQGP PLGMFLGQAIHKAQRSCKPALGPEELP TQGNWK*
913	8964	A	1852	913	1375	SIFPGVVIEHLTLTFIYYHFIINRTSQGIDS QILSLFLFFF/CFETESRSVTQAGVQWR HLGSLQPPPPWFKRFSCLSLQSSWGYRH VPPHPG*FLVFLVGDGGFTMLGQGSQ NSCTSRSTRRLRLAQPLFSQFKNCFKNC KSSIGLIPLYYY
914	8965	A	1853	1295	1679	KCINCKVYFTGVFFLIPTCQMQUIHFVCL CLVIISIHISFFYFIYFYDIIS*MCNL*LLD YFNPLEITHAFCIQFM**LIYL/CFKCILFC GFLGCFLLKIYRF**S*FSFSLKCIYS FYSLV
915	8966	A	1854	2	410	
916	8967	A	1855	3	322	

917	8968	A	1856	1	666	SGRDDQGRRAQCSAARCGRPSGGVMED ERSFSDICGGRLALQRRYYSPSCREFCLS CPRLSLRSLTAVTCTVWLAGYGLFTLCE NSMILSAGIFITLLRPLGVSPSVKNDQETL LUIDSLGVQMTSSYSGKESTTFNEMGK VK/EIFVNNEAIYMVSI*KHKAIYYLWNL FEKIPVÆPHGDIPKYVPVFQSAKPRLADC LÆVEYRSCQEILAHQKATSTSP
918	8969	A	186	49	1357	RTPERCLREV GKATGWPECILT*QTIIPRP /YPSVGTAASDTKKKKINNGTNPETTSG GCHSPEDAQVQTIRILTQCKTELQMALY YSQHAVKQLEGEARDLISRLHDSWKFA GELEQALS AVATQKKKADRYIEELTKER DALSLELYRNTITDEELKEKNAKLQEKL QLVESEKSEIQLNVKELKRKLERAKLLP QQQLQAEADHLGKELQSVSAKLQAEQVE ENELWNLNQQQEEMWVRQEEKIQERE EKIQEQUEEKIREQUEEKMRQEEEMMWEK EEKMRQEEEMMWEKEEKIRELEEKMH QEKIREQUEEKREQUEEKIREQUEEKRE KMWRQEEKIREQUEEKIREQUEEKMRQ EKIHEQEKIREEEKREQUEEKMRQEEKI REQUEEIWRQEKMHVRTDEISVCSIFQGF ISVGLCKFAYPFDCFTL
919	8970	A	1861	20	465	VACCVRI PGPRRSGPAMAVTITLKTQ QQTFKIRMEPDETVKVLKEKIEAEKGRD AFQNMQRVQIQNPALLPALLQQLGQENP QLLQQISRHOEQFIQMLNEPPGELADISD VEGEVGAIGKEAPQMNYIQVTPQEKEAI *RLKALG
920	8971	A	1862	6	448	
921	8972	A	1863	391	1610	VAMCVEIPGAASLGPRHWPVTITLKT QQTFKIRMEPDETVKVLKEKIEAEKGR DAFPVAGQKLIYAGKILSDDVPIRDLFA FDGGRNFVVRWVTKTKAGQGYLQAP PGGSPSHLPQSPLTSFPFPCPHLQACSIPP LAGQRRHKSPSEESGPKTFPESVSGSV SSG/SGSGREEDAASTLVNGAFY*GR WLTEIMSMGYERERVVAALRASYNPA HRAVVEYLLTGIPGSPEHGSVQESQVS EQPATEAAGENPLÆFLARDQPIQFQNM QVIQEEPLRCCPALLPASWAQENPQLLT AKSARPPRSQFIQMLERSPPGEAWADIS DVEGEVGAIGEEAPQMNYIHGDARRRK EAIER*KALGFPESLVIQPYFACEKNED LAANFSLSQNFDE
922	8973	A	187	1	408	ASDRPESRATHASGKSPVFSDESDLD DISKLEQQSKVQNTGHGKPREKSIIDEKF FQLSEMEAYLENREKEEEKRDDNDDES KSSRNVNKDFDFPVESEDEDIASDHDE LGSN/EDDEIAEEEAEEGSISEI
923	8974	C	1870	293	448	MXKTLQELRAHENEITXVRKVTFNGLN QMIVIGLPPSLTELHLGWQQNQSS*
924	8975	A	1871	1	475	SYIRIADTNITSIPQGLPPS/TELHLDG ISRVDAAASKGLNNLAKLGLSFNSISAVD NGSLANTPHLRELHLDNNKLTRVPGGLA EHKYIQVYVYLNHNNSVVGSSDFCPPGH NTKKASYSGVSLFKNPQYWEIQPSTFR VYVRSAILGNYKKK
925	8976	A	1872	1	636	

926	8977	A	1873	196	1274	IMKATIILLLLAQVSWAGPFOQRGLFDF MLEDEASGIGPEVPDDRDFEPLGPS/V CPFRCAQCHLARVVQCFILGLADKVTGI FSPLNNTLLDLQNNKITEIKDGFKNLKN LHALILVNNKISKVSPGAFTPLVKV/EER LYLSKESA*RELPEKMPKTLQELRALED* /EFTKVRKVTFNGLNQMIVIELGTNPLKS SGIENGAFQGMKKLSYIRIADTNITSIPQG LPPSLTELHLDGKNISRVDAAASLKGNNL AKLGLSFNSISAVDNGSLANTPHRELHL DNNKLTRVVYLHNNNISVVGSSDFCPA GHTPKRASYSVSLFSNPVP/QYWEIQH PTFRCVYVRSAILGNYK
927	8978	A	1874	248	1393	IMKATIILLLLAQVSWAGPFOQRGLFDF ML*DEASGIGPEVPDDRDFEPLGPMCPF PLQCHLARVVGQSDLCLEQMPKDLPPDT VTLADLQNNKITEIKDGFKNLKNLHAL ILVNNKISKVSPGAFTPLVKLERLYLSK NQLKVELPEKMPKTLQELGAHEEWDHQ KWRKS*LFNGLNPMIVHRNWAPIPLKSS VGIENGAFQGMKKLSYIGIADTNITSIP QGLAPPSHTKLHLADGKQKSSRVDAASL KGLNNLAACKLIEFSNSISAG*TNGLSGP TRPHLRELHLGQQQALPRVPWWGWAE H*VHPRLS*PFITNQYLCRLGSSDFCPPG HNTKKASYSVSLFSNPVQYWEIQPST FRCVYVRSAILGNYK
928	8979	A	1875	81	137	TMAFPAGFGWAAATAAYQVEGGWDAD GKGPCVWDTFTTHQGGERVFKNQTGDVA CGSYTLWEEDLKCIKQLGLTHYRFSLSW SRLLPDGTTFINQKGIDYNNKIIDDLLK NGVTPIVTLYHFDLPQTLEDQGGWLSEA IIESFDKYA/QCFSTFGDRVKQWITINEA NVLSVMSYDLGMFPHARSHFGTGGYQA AHNLIKAHARSWSYDSLFRKRQKGMV SLSLFPARLEPADPNSVSDQEAACKRAITF HLDLFAKPIFIDGDYPEVVKSQIASMSQK QGYPSRLPEFTEEEKMIKGTADFFAV QYYTTRLIKYYENKKGELGTLDAAIEFF PDPSWKNVDWIYVVPWGVCKLLKYIKD TYNNPVIYITEDGFPQE*PSAFWMDTSTL GSIFRQTFQELFKAIQLDKVNLQVYCAW SLLDNFEWNQGYSSRFLFHVDFEDPAR PRVPYTSK*YAKIHRNNGP*RTRGAWLL WPKGALLAAEDPSRQLLKPWLSLQDL DGRQPLQLIK
929	8980	A	1876	243	1126	FQQRLYRAARRFTMVKIAFNTPAVQKE EARQDV EALLSRTVRTQILTGKELRVC HPGKKEGSSGEMLWFTLFRFQFILGGL YLFGGACIYK/YTFMPKRHHFTVGEMCF FDESDPANFPFGGGE*LSCLVT*/EADI REDDNIAIIDVPVPSFSDSDPAANYFMTF EKGMTAYLADLLGNCIYLMPLQYFYL LWPPKKIWVELFGQTGRVGRYLPQTYV VRDLVAVSRKIRDVSNLGFIFYQLCNN RKSFRLLRRDILLGFNKRAIDKCWKIRH FPNEFIVETKICQE
930	8981	A	1877	985	1401	DFA*V*RDRVKFKGTCFLFV*WFLKFF KMEFLPRLECNGKJHCNLLMGSSNSP TSASQVAGDYRHVLWWFLIEMEGFPML VRAGLKLLYLEWIGSAF
931	8982	A	1878	184	481	SPRCNPSPLPQAFQSGDCPLPCTAAGL MCAWRSAREPCLLPHCLPRVWHRRDP/ CSQPTSQG*TEALPILCK*KPPWPPEIS PSQWIHQSPADPAL
932	8983	B	1879	148	194	XNILSVIAVRKLFTAAX*

933	8984	B	188	1	1995	MSKETRQSKLAEAKEQLTDHHPQTNPSV GTAASDTKKKKINNGTNPETTTSGGCHS PEDEQKASHQHQEALRRELEAQVHTIRIL TCQKTELQMALYYSQHAVKQLEGEARD LISRLHDSWKFALEQALSAVATQKKK ADRYIEELTKERDALSLEYRNTITDEEL KEKNAKLQEKQLVESEKSEIQLNVKEL KRKLERAKLLLPQQQLQAEADHLGKEL QSVSAKLQAQVEENELWNRLNQQUEEK MWRQEEKIQEWEEKIQEQUEEKIREQUEEKI REQUEEKMRQEEMMWEKEEKMRQE MMWEKEEKMRLEEMMWEKEEKIREL EEKMHEQEKIREQUEEKREQUEEKIREQEK RQEQEAKMWRQEEKIREQUEEKIREQEK MWRQEEKIHEQEKIREEEKRQEQEEMW RQEEKIREQUEEIWRQEKEMHEQEKIRKQ EEKVWRQEEKMHDQEEKIREQUEEKMW RQEEKIREQUEEKIREQUEEKIREQUEEK EEMMQEQUEEKMGEEKMQEQUEEKMR QUEEKIREQUEEKIREQEKIREQUEEKIWEQ EEKIREQUEEMMQEQUEEKMWEEKMC RKRRCKNRRRKYYVFARIIQRYVLLNHIIR NRKSVQILVLSCDFLNSKNSHLLPDTL MLEDKAYLQIESCLIPNEEEYQYLAE*
934	8985	A	1880	2	1508	PESVGGGKTLQQUEEKQLQPCMQMDNRL PPKKVPGFCSFRYGLSFLVHCCNVIITAQ RACNLMTVMVMVNSDTPHGLPNTSTKK LALDNKNPMYNWSPDQGHILSSYTSYG VIIIQVP/VLGYFSGIYSTKKMIGFALCLSS VLSLLIPPAAGIGVAWVVVCRAVQGAA QGIVATAQFEIYVKWAPLERGRLTSM TSGFLLGPFIVLLVTGVICSLGWPMVY IFGACGCAVCLLWVLFYDDPKDHPCISI SEKEYITSSLVQQVSSSRQSLPIKAILKSL PVWASIGSFTFFWSHNIMTLYTPMFINS MLHVNKENGFLSSLPYLFADWL/CGNL AGQLSDFFLTRNLSVIAVRKLFTAAGFL LPAIFGVCLPYLSSTFYIVIFLILAGATGS FCLGGVFNGLGYCSPDILGFIKACSTLT GN**GGLIASITLGLILKQDPESAWF*N LQSLMASPLMVTGP*FHPYRLPTARNS RDWAKEKQHHTSPEV
935	8986	A	1881	90	458	HFSRGYLEAFSEISNIRFVPPHSVTVVVV FGACFLCILGIWPWACLPGPGGEGSGGF GEGRGSEAGRLGSVELTPATLPLQAPEA YPVFEPVPPVPEAAQGDTEDEGAPPLK RJCNPADP
936	8987	A	1882	15	796	PGSTISWRPGLARSLSPDGRPRRGLGP GPSPASMAGRVTRAETRSRAKDDIKV MATIEKVRKWKRWVTVAATPFRILNW VAIVDPQEEER/RREAGGGAERSRGRE RRGRGASPRGGGPLILLDLNDENSQON FHSEGLQRGTEPSPGGITPKPNRPCVT PDPPEGGP*EGLSPRILGQEERSPPGGITV GSTYEPPMLTKEEPVPELLEAEAEAYP VFETVPPVHETAQGDTEDEGAPPLKRI CPNADP
937	8988	A	1883	566	831	ARSFFLITILIQRTDWRKNKFPPSNFPSNL RTNFLDQFLKETILRKH/RVGLGVLAHT CNPSTLGGRGGWSP*QGEFENSLTNMVN HFS
938	8989	A	1884	534	1835	GSSYMHFQGEWVIAQCFKKLHRGVVCV VCL/CLYTHICIF*YITKAILMNY/ACI*KN SCHLAHRFVCMCIYICMYVWCYIVLKI TQ*CMY
939	8990	A	1885	60	395	
940	8991	A	1886	1	193	FRLARGENLEHLRNKTEDEATSEHFKT TSQKVARKFWWKNAMIVL/VFIILFIV LFATGAFS

941	8992	A	1887	1	280	
942	8993	A	1888	1	396	
943	8994	A	1889	85	410	DMEASEGGGNDVRNLOQSEVEGVKNI MTQNVERILARGENLEHLRNKTEDLEK PTSEHFKTITSQKGGSEKFWWKVVKDD CPLICRDCF*SSLLQLWLFATGAFS
944	8995	A	189	386	1321	RTLERCLTEVGKATGWPCILTYARRSL APVLLGSH/HGRGLQTPGKLWSWGKSEE QECEEDGSETETGGQEDLEDLQEEEEEVS DMGGDNPEVGKKARNSSKFELRKSPVF SDESDLDLDFDISKLEQQSKVQNGQGKP REKSIVDDKFFKLEMDLYLENIHKR*E ERKDDNDDELDSPPQTSFVGTGATDT KKKKINNGTNPETTTSGGCHSPEDAQVH TIRILTCQKTELQALYYSQHAARQLEGE SRDLVSLHDSWKFAGELERALSAVTTQ KKKADRRQTGAESAAGVGLGDTGDTVG SEHWT
945	8996	A	1890	122	975	AARPTRHLCCGQQQVLCGPSAVGRL PLQWGLGLGPTMSSLGGGSDAGSSSS STNGSGGSGSGPKAGAADKSAVVAAA APASVADDTPPPAGVGTAVSSVSPSTRA CA/GSRPLSHYSSFGSGSGSGGSMGG ESA*QGHCGCSRGLPVGQWA*PGGGHG GGQKQPYLKAQKWCCGQPAEQGRAGH GAGSRGTADAAVFAVHRDAEARGAG ASPADERGGLACLDMEAAGAEALNG QSDFFYLGRFPSTQGLLSLLTPAGVVS WAEKRAAHGRAWA
946	8997	B	1891	1	8736	MPGQILVKAQQLFQQAQKSFHRMVLEQ LGIYWETNKPFPFHPITHENEFEMNHRG ECKTKNYKTSRRKYRRTSLTPRGQQSFL RIQKIGQRYLQYIYQAKASNPCTKNSC KPKDKQPDNRMGKKTLESDEGLRPKA PIPAPDPVAGRTLIGKEHVPILWGGVLAS GTSCSLSPAGSPVHPTTLRDHQLGPPQPL WSCLELQPHQTHNKFVGRGGAKERDRN LARACPLSQGWQRPGLNTTINIPAGE NLNL
947	8998	C	1892	377	463	
948	8999	A	1893	753	3000	KLEPCGGTPGPRAGSGPCQDPHIPPEGVG GSPDGPAGWAPNTHSASWSWGPHEC PPPA*AADCRTDRSESPASPVCLSPNS QRPPHLEAPGYLPGGSSRTQPAV/PTCSP PGIP/AVPALCP*PG*KTT/PIYTEAGKLAT SAPGT/PPRQLSPGNAVYCLPPDTHQPG RAGLAESAPYPEAQPAVGQEGDAGTE/ PGPSCQTQH*PPQEPLLGPPQL/PPTSQQ PEGGALHSWPQRWPRKFPDP/PL/PVRP VWSAKPWNT*RRSPPGAPSPTRTAMGT TTPCPRPSPDSKHVPLALPGAP/VPAQILD LLPRQALRTEPSAPEPLAGYGDSPWLCG MAVSTGPVLPWLRNGPRTNHSC/CRSRN FASALHGAAPSKSFIRR*WGRTP*PAGC PF/PGLGIVPRSTSSAPTQLGSGNAVVG HVRVLPFSHSDGFLQPMSSSGSLAQQSV WASLGSEQQQVPMPLPPASGTPAARAGP VQFEQCLLSPTWKPY/PAFAQAVP*S RMVCPEAGPRSQQ/PA*QPPGLPPPPAT RVG/PPDVKGGRGLGSPGRPA/PPACMS EQLPIGLLAWGLQDARPAAGAGGRAFE* PPGGSSQRFPPSGT*EAE**QF/VNGDGPA PTFSCPMGKPAFPCPVRAVPPALPDVLT GNTAALGSLKAFGNLQPSLDNSPVP* LLEGPTPEQPPRTTSAPKECSSSPTMPGV GPWVTGTSGRPTFLSPFFSYEEHFKVLLF KEITVQQAEDGFHHRPFPRNKQ



949	9000	A	1894	3	576	LTRIPFLGAKYAPVIFA/EGA/YQ*QRS*T EIQMACFKQATR WVKC/DPRHGKYM/ CCLLYRGDVFPKDVNAAIATIKTKRSIQ FVDWCPTGFKVAGINYSPTTVVPGDLA KVQRAVCMLSNNTAIAEAWARLDHKFD LMYAKRAFVHWYVGEEMEEGEFSEARE DMAALEKDYEYEVGVDSVEGEEGEEGEE Y
950	9001	A	1895	58	1636	LVGDGNPGPGVCSCRLRLIPYPLCGECI SIHVGGAGVQIGNACWELSCL*HGIQPD GQMPK*PKPLGEGDDSFNTFFSETGAGK HVPRAVFDLEPTVIDEVRTGTYRQLF HPEQVITGKEDAANNYARGNYTIGKEH DLVLDRIARKLADQCTGLQGFLVHHSF GGGTGSGFTSLLEWLSVDYWQESPSL EFSIYPGAPRFPQPVVEPYNSILTTHITL EHSGLCPSWVNEAIYDICRRNLDIERPT YTNLNRLISQIVSSITASLRFDGALNVDL TEFQTNLVPLPRHSTSLRPTYAPVNPPS* EKPTHEQAFCSRRSPKCFAFEPSQPRWL KCDPSPMGKYMACCLLYRIGDVVPKID VNAIAHPSKPKRSIQFVDWCPTGFKV VAINYQPPATVVPVGDIAKVQKTVCML SNTAIAEAWARLDHKFDLMYAKRAF VHWYLGEGMEEGEFKA REDMAALR KDYEYEVGVDSVKGEEGEEGKGLIHS FGPCSMSCSQNFSLTDRR
951	9002	A	1897	2	350	SQVDR*QSEPEIRICREDHMERLQAFDA NSRKQAEWKEKAIKELEEWYARQDEQ LQKTKANNRVAEKLSTNNPSLT*LVMS EEAFVNDIDESSPGTEWVARLCDFNP KSLD
952	9003	A	1898	2240	2492	
953	9004	A	1899	1	906	ATAVSVGRLVVFVSTGCVRAVQLPAMA ELDPFGAPAGAPGGPALGNVAGAGE EDPAAFLAQGESEIAGIENDEAFAILDG GAPGPQPHGEPGGPDVDMNGEYY QESNGPTDSYAAISQVDRLOQSEPSIRK WREEQMERLEISLDANSPEKKQSWKEK AIKGA*KEWYARQDEQLQKTKANNR VADESFLQTTLR*RDWLCHKHKPSLLQP RTGQPEEALFKDLEGLSPSNEWERVAR LCGL*PPSLSKQAKDVSPHGASVLISLK AGPRWGHLKSHPVETLHLQYLNPTQ
954	9005	A	19	12	288	FGGGYIPTWGKGEGILALELNHDISREFC SAPALASRPPTPPPLLPPT/PPLPAPRSPA DATPRRVGGPLR*ALKPRAPGPGWSRRR CRSWW
955	9006	A	190	792	1061	GSGV*DQPGQHGKTPSLLKIQLAERGG GHL*SQLRRLRQENHLNPGGRCCSEPR LLHCTPAW/VNESKTSSQTNKISQEW CVPIVL
956	9007	A	1900	29	852	PSRSLVRVVEFAPQRWLPVSVVGRLVF VSPVGVRAVQLPAMAE LDPFGAPAGAP GGPALGNVAGAGEENPAAFLAQGES EIAGIENDRAFAILDGGAPGPQPHGEPA GGPDVDMNGEYYQESNGPTDSYAA AISQVDRLOQSEPSIRKWREEQMERFG KPFANSRKQAEWKEKAIKELEEWYA RQDEQLPENQKANNR/AQTEARPL*NDI DESSPRPLKWGNGWPRAV*TLNPPKS*A KQAQKMSPPHDASVLILPLKAGPRWCH
957	9008	A	1901	1	585	

958	9009	A	1902	2	537	GTLRRDFNHINVELSLLVKKKKRLRVDT MLGQQKRNWPTRSGLFGSHVQDHDQG VLPLGFPLPRMRVLCMPHFPOSTVVIPGR MGSSLLKIRNFLGVKNTIRRVVRMRPGC CLVQYPQAQKDELILEGNDELIVSNSAG LIQQATTV*KQGISGNFLDGIYVSEKGT SCRLMNKI
959	9010	A	1903	560	898	KCNTECFGSLMHFVVVLFIIHFLRQQGR SVTRLECSGAILAHCNLRPLGLSNPAS ASRVAGTTGTCTYRIQLIFVLVETGFHYV GQAGHKLLT*VIHPPQPPKVLGLQV
960	9011	C	1904	224	379	
961	9012	A	1905	1249	1642	LGCYPGPFHVPKWMIFPDCEISVTGVC VC/G/GVCSCGVCG/CG/CGCLPGGKICK YI*ICSQIL
962	9013	A	1906	415	656	SLPRSPLGRGTPSPQHLSSNLNLASLYHP HEITPWIISSSSSSI*TPI/TPSFYSPPTNCD PQIFDPQTPVSGCRLASSQGPSLNPSTNL SGPQIPFASYPCLLLAPHPSLPASRPQSCP SPKTWAPPS
963	9014	A	1907	1	417	TISWNTGPRARSRARGSSSTGLDGCVGGG SGGNSGLPCPDLEPLGGLQSKCRLCAPT EARGLWS/KVPLFRQVRHLALHACGCRE AWPPPGPPLLVALCFHLKALPSRGSRA GREAVSKHLKFAMLAGGRVCGSRRVLS M
964	9015	A	1908	1	438	QCTPSSAADCELTACYGFSS*PS*GPSPL PWRPRMCESWVHLPPTPQCFSDIGPS EVMVRPLGWDTLRGSMPLPW*GAGERA GKPLPAPADASPHRSGTGFDRAAGGRGR RRCNRSEEGVIPFAAPRLPPHAFWRVFP HWETT
965	9016	A	1909	113	704	
966	9017	A	191	2	343	LLFFFFFEMESCSVTRLECSGVISAHCKL C/LPGFKRFSCSLPSSWDYRRM/PPRLA NFLYFVEMGFHRVAQAGLKLSSGNLP ASA/F/PKY*NYRRDDASLAACSTFLGLG LLWV
967	9018	A	1910	317	470	NYPMSVVPQDMWRKSHAA/HILREMSS KITAAQL*WNNAYFGSSKGLSCVWP
968	9019	A	1911	147	850	MAASGAGAEVSGR*GREPPALPPAPVCG PARRRRSPP*LPKTYRFFSLWQGRGPRDRSS APIGNSGLPCPDLEPLGRAARSKCRLCA PTEATKACWK*GPSCFRQVRHLALHA CGCR/EG/LGLPQGPPTSAGLLCAFTLKA LPSRGSPCKEELSASTSNFSHAGCGRVC GSRRVLSML*FSGKLPLSVVPQDM*RK SHAAHLREMSSKACRSAFDGNALFLE VSKGLSCVWP
969	9020	A	1912	119	1001	GSRTKGRAVPECACAPVGAGEGRPAGV AVSDGVIKVFNDMKVRKSSTPEEVKKR KKAFLP*VRTKNNIILÆEGKEILVGD VGQTVDDPYATF/VSKMLPDKDCRYAL YDATYÆTKESKEDLVFIFLGPPEAP PLEQNGFMPSSQGRPSKKGSWTGDSSHE FAKPNCLPKEGQGTACTLAREAGGQVP VYSPGRAKPFVSPFWPPCLGASGSPQHL APWGFAGCPFLQRPGRWGGSPAGGG EIPLNPSPCKQTPPNPPGNFSPSNPLDGF WFFPKLLFESFDSSWG

970	9021	A	1913	361	1785	LPLPRWKVLLPRDILGPRKINEVSSDDK DAFLCEQTSGLDKKTSEVVKSSPLGVTP LFMQSNVINSTAIKTLAATGTGFDCA KTDIQLCAESRGVPPERIIYKSFVKQVS QIKYAANNGVQMMTFDSEVELMKVVA RGTFPKAKVWVLRJAATDDSKAVCRLSV KFGATLRTSRLLERAKELNIDVVGVSF HVRSGCTDPETFVQAISDARCVFDMGAE VGFSMYLLDIGGGFPGSEVDVKLKFEIT RP*STQPLDKYFPASNWN*KS*LEPGRY YVASTFDALQLISFAKKICIKRNQTS**P KIESELSRPLMYVYVNDGVYGSFNCILY DHAHVKPLLQKRPKPR*RRYSSSIWGP TCDGLDRIVERCDLPEMHVGDWMLFE NMGVAYTVAAASNVPMLPRGPTIYYVM SGPAWQLIQFQNPFGFPGRSQPGCP APCPVFCAWESGMKRTRASPVPSG
971	9022	A	1914	501	746	ARSSLVLLFIYIFRDRVLLCHSGWSAVVQ SWFTAALISQA*VILK*FSLSLPSSWDY RQVSPHPANF/SYILFCRDR/SFTMLPRVG WNSWAQVLLLIQPPKVLQL*AGCHGSCL
972	9023	A	1915	156	166	VLFLKRPYLQDAVLWLFTAIISHSTLEL LGSSYPTTSAS*VKHSNSNIMKFKVPVLN ECTMQLGKTKMIKVLVKSIF
973	9024	A	1916	452	1017	SLHGSRPHLPTGRLLGPETCAGFSRFGQ NESLTPFVTSDRSKNRKRHFAPFPHE GKIMSSPLSKELRQDVQLCGSDARS*KD DEVQVVRGHL*GSAKLAKVVQVYRK KYVIYIERVQREKANGTTVHVGHFTPS KQVVIT*G*NWDQRPKRSLRTGKPKSR QVVGKGRGKYKERTIEKMQE
974	9025	A	1917	3	474	
975	9026	A	1918	1	246	
976	9027	A	1919	373	560	SQLKNAKFNLRLPPNVY*DKGQYVTS QLYQNAAPIFKQAFETCAHTNTIQD QAPRRI
977	9028	A	192	2	447	KEEIIPIL*NLFQNIKAEGILRISFNEARITL I/PKPN/RAITRKINPIDQSLMDRHAELNK ISAN*IR*RMKRIIPHGQVRFS*GMWGW NIRKQINVIHHTSLKKNHMIISINAEKE FDKIRKLLKLRLNIYKRG*LT**VMVRNS
978	9029	A	1920	837	1441	IFFFHLSPSHSHARSHFLFAIMNRPAPVEI SYEDMRFLITHNPTNATLNKFTGT*GS MGVTDGFGVCGWLHMDKAPVWKKE GFHVLWDWPFDDGSSTPLIQVIGWIFK PV*KTKFSCSHGCCVAVHCVGRVGE APVL/VLALALDWNVGMKIYEDAVQFIR QKRRGAFNSKQLLYLEKYRPMRLRFR DTNGHCCVQ
979	9030	A	1921	2	1059	GRVGFFAGNPGSDSFGGLLGLTPVLR WVADGGTIPKRHELVKGPKEKVEVDK ETELVAQWNYCTLSIQELRRPIVACELG RLYNKIEPVIEFLDKSAEKALGKGSISH* NALTNC*QS*KLSDNPCPGKIGKNTKG DKHDDLQAGASFI/CP/LVGGPGRWNGR HRFLLPSSGGCGLCCFS*AEPWKEIKAFC HTCGAGLSRRMMIIVLNGTKEDVDVLT RME/AEKAVERSFKRISKPKAAESVSKT QMSVEGSPRAHQKLRPGK*RSALDSR EKKTNLAPKSTAMNESSGKAGKASVW SHKEVHR*PVKNRKPNSLFTTHSFRQS APKEGVCPTGVHPTPTCF
980	9031	A	1922	272	467	
981	9032	B	1923	131	268	XFVTCNEKVAKEIARAVVEKRLAACV NLIPQITSYEWKGIKIEEDX*

982	9033	A	1924	2	353	GSPPTQSPASDSGSGYVPGSVSAAFVT CPNEKVAKEIARAVVEKRLAACVNLIPOI TSIYEWKKGIEEDSEVLMVHPYEVAEV IALPVEHGNFPYLQWVRQVTESVSDSIT VLP
983	9034	A	1925	70	357	
984	9035	B	1926	120	839	MSGGRAPAVLLGGVVS DRPRPAPSGPRS LDRYHPKSORRFAKEIARAVVEKRLAA CVNLIPOITSIYEWKKGIEEDSEVLMMIK TQSSLVPALTDVRSVHPYEVAE*
985	9036	A	1927	259	935	GASLLLSFVWMPALLPVGLPAFLFANPE SLLTMG/SLGSPSDPSRPASDSGSGYVP GSVSA\AFVT\CPNEKGS PREIAR\AVGGR RRLA\ACVQSSPQITIPSMKWK\GKDSR EDS*GCWMDGFKTQKFPWVPSFWTDFV VRSVAPYEV\AEV\IALPVEQG\NFPYLQW VRQVTESVSDSITILAMMSPVPAHHEDP RDTSKAFLTFQVMTWAPNKSRLWVKKK KKSRL
986	9037	A	1928	285	476	LLKHLINNMVSKTTWLGVLHTCNPS/ TNFLGGRGRIS*GQFEASLGNMGRPC LYKNRQKTN
987	9038	A	1929	218	602	NGGQAVAHACNPSTLGGQWRVDHLRS GVRDQPGQRGETPSLLKIQKLAGRGGAR LWSQLLRRLRQENRLNLGGGCGSEPRW HHCI PAWGNKKE*NGNYAQRMGERWL TGLKHQRNGEDRTVREL SGR
988	9039	A	193	128	363	VHTWMLSSP*GPQPGVFHAQIRGCPFLSP *RVCQFQVFSLFYFDLLWVFILFFLEAE YHFVARLECSGLISAHCNLC
989	9040	A	1933	2	355	TSM LGCTVFLR/YCVYSYCNV LATVW SSLV*RSRLICHLVS/WSFVTDCKACYN TGMLFYSDY**FVYYF*YYCFFLCSLFFSI CLLMYFNIFFF/CNFMFDCYILLSSFYHIL YHYF
990	9041	A	1936	139	782	GLHHGCSLGMEEAAGRGDRSRSCRAP QHHRPPPLSCQPRLLGEAGRGGVGRK HGSL*KQAPPPRGRAETPGLANHTLPPR VPP/SEGQQHPREGQGLHGGPGKEKGKPH RRKLKASVPCVSAERVNGPKGSSLQTAR IHPTGGHRKPTGAVCVCAAAHTSAAR GPLRPHHTACPAHVCTRRCRREHTPPSL CTRVPLSGPGGSSLLHVLSRA
991	9042	A	1937	1	1878	
992	9043	A	1938	345	557	LYMLIRMRLKEGRAKMVESIFR**FILE* SVLS/RIMKPGMYPVLNRVWKCGNSSSV SYPEEKVVGWLLKFI
993	9044	A	1939	345	511	ARDATFVNGLDYLITLPYCGWKDCKKK CPLRQFP*PFNCCFFLVFVRV*KHSLP
994	9045	A	194	233	598	
995	9046	A	1940	827	2660	
996	9047	A	1941	478	1150	SMPWQIGRSSVSAPPTITPTSSTASWTIVS STIWSPHVPATTKVSTLHWTVVRRLLVII SKIIVISTSISSSIVVITTSVAPTLVAISRSS TTISSSSSITGATSKIATSRSSSSAGSRAE VLLAELFLEQRQFSLQRQDESGCSSAEI SLISLGCCKSG*SD*VRDGERKRNSSVSS LLVA*ALKPQKKV*GTTTNNGESLQTVW **GILQAKDQEDLVL
997	9048	A	1942	123	734	LFKSAIKNGLQHELHCRKWEKKQNGKVS KKVQ\EAEPVESGVEKVLDRRVVNGKV EYFLKWKGFTDADNTWEPE\ENLDCPE LD*SRFLNFSRKAGQRKRWPKRKSLSD \SESDDSIHRRKRDAAADQPKEDFARGL DP*KK*LG AHRPASGE\LMFLMKWKDS\ DEADLV\AKEANMKCPQIVIAFYEEKP TWHSCPEDEAQ

998	9049	A	1943	1092	1285	IDVCVCLALLRLECSSVISAHCSLCS/SG SSDPPTSAS*VAGTTTACHHAQLIFGFFFF LKRWGF
999	9050	A	1944	76	532	LPRPRSRLTALPPPSFLQTPKSRALMAG LEVLFASAAPAITCRQDALVCFLHWEVV THGYCGLGVGDQPGPNDKKSELLPAGW NNNKDLYVLRYEYKDGSRKLLVKAITV ESSMILNVRTYKNSSEELRSRIVSGIPIH EQWEKANVSSP
1000	9051	A	1945	109	1008	ALPPPSFLHTPKSRALMAGLEVLFASAA PAITCRQDALVCFLHWEVVTHGYFGLG VGDPQPGPNDKKSELLPAGWNNNKDLY VLRYEY*GWGPESFLVESHSPWESSIDSS MLLGIMGSQQSWQI*PLNLG*LFSMAEH LGDFHRTYKNSSEELRSRIGA\GIL\TPIHEQ WEKANVSSPHREFPPATAREVDPLRIPPH HPHTRSQPPWCDPLGPFVVGEDLDPF GPRRVGMNVADPLRSGLPRAFNDPSSG LPNRLAPPGAVPQAGFDPFPGIGTSPPG VNP\DHLP\PPG\YDDMYL
1001	9052	A	1946	152	991	RKTKCVTRPAVVFQSP\TSRSSRASACE VAFPRGQPRKGPKRDNWILGTRPSWVA VCSSPRLGLSR\EYKLVMLGAGGVKSA MTMQFISHRFPEDHDPTIEDAYKIRIRIDD EPANL\DILDTAGQAEFTAMR\QYMR GEGFIIC*LLSRIRRSF\HEVPESLNQLIYR VVRTDDTPVVL/VWGNKSDLQTA*DRF TKGRKGLALAPENSSCPLFWRTSGCHTR VYIDGCFPHAPVRE\RRKEKEAVL\AM EKKS*APKTSVWKEAKNHPFRKKKDSV T
1002	9053	A	1947	305	406	
1003	9054	A	1948	372	501	RPGAVAHSCNS\STLGGRGRWIT*GLEFE TCLANMVKLCFLHLY
1004	9055	A	1949	441	812	ITTHLYISKPLLCTPMKTYNYL\SIKIKF *FSLLRQGLALSPRECTSTITAHCSLNLP GFKQSSHSQPSE*LGTTDTHHHIQLVFLIL /AETEFCHVAQGGL/NIS*VQLIHLPTSK VLGLQM
1005	9056	A	195	38	1222	EPESCSVTRLECSGVISAHCNFR/LPGFKN FPASASQVHGTTGTPHHAQLNL\YF*VEE QGFPMLAPGWILGSP*PLMDPAPSLALP QSAGDPQP*AHPHPGPSYLFLKERENYE RPKII*LNPLPLAQGKKMEFALI\WVMKH TQ*IRNNHIFSKRQK/C*DL*SYMVA\YFW VGKK*EKNITSLTGNDTF**KILLSFPTRM IHCKAKI\Y\IAKFFFWRRLTSVTLGWSA VWHNLSSLQPPPSGLKRLSHLNLPNT/W DYRPPCPANLCFVVVVVLLFVFW*RW GF\TMLARLISNS*PQ/CDPPTSASQSAEIT GMS/HPCLAMGFVFHLTL*KPPFFKDYM KSFFQFFKYLIQG*CSLV*GVYRSSLIFF F/CFFETESCLVTQAGVQWRDLGSLQS
1006	9057	A	1950	2	370	
1007	9058	B	1951	209	524	MLLSLAAFSVISVVSYLILALLSVTISFRI YKSVIQAVQKSEEGHPFKAYLDVDITLSS EAFHNYMNAAMVHINRALKLIHRLFLVE DLVDSLKLAVFMWLM\TYVX*
1008	9059	A	1952	3	463	

1009	9060	A	1953	49	1129	RDLEFSCRIILFPLPSLPPRISFHPSPTLAR VAMAEPSAATQSHSISSSSFGAEPSPGG GGSPGSLPRPWGPKSCSSSICAVHDLIFW RDVKKTGfVFGTTLIMLLSLAAAFSVISV VSYLILALLSVTISFRUYKFVIAQVQKSE EVGHPPQKPNWNVDITLSSKSFSNNMNA AILHINMFLKLIIRLFLVEDLVDSLKLAVF MWLMTYVGAVFNGITLLILAELFISVPI VL*RYKTQIDHYVGIARDQTKSIVEKIP SKTPLGIACKKGRIKYMETR NATSYLKH HLISYNVVTCTMKENTQCQLEPAFQAFF LIWCFLPSFPFNPQSSSTKIDGLIKDLFLD LRRRNQIS
1010	9061	A	1954	46	519	SQTPMGHFEEDKATITSLWGVNVE DAGGETLGRLLVVPMPGQRF*PALG NLSSASAIHGQPPKSRAGQEGC*RLG DAIKAPGIDLQRAFAQA*SELALVDKLA MWDSLRFKASWGKFLVDPFLAIPFSA KEFHPLRCQVFLGQKDG
1011	9062	A	1955	1	747	
1012	9063	A	1956	1	813	MKEENLCQAFSDALLCKIEDIDNEDWEN PQLCSDYVKDIYQYLRQLEVGLQSNPH FLDGRDINGRM/RAILVDWLQVHSHKFR LLQETLYMCVGIMDRFLQLSLPAEDREA LGTSSPQHSALGDVGYKSGFILSPHPC MSKIEPEDEKLSFLFIGPFLKNPSPRANG DPMFLCLNEDEAQLEETKWTGCQKQL CDPLSEEVKTGEKLVQTKGERTSRIREV QFLAQNHITRRWQSWDLGTSSLTPEPVF SLEINVREQRDEDNIQVLRG
1013	9064	A	1957	1	1390	EATASKIPSAAGSESSPNGASYASVPPFS VRVPPWAGLALLPSPSLMALLRRPTVSS DLENIDTGVNSKVKSHVTIRRTVLEEIG NRVTTRAAQVAKESSGTPKFQVQPTKTT NVNKQLKPTASCQTQYQMGKVWLPKG PSPTPAEDVSMKGRESLPKLFSDALLCKI EDIDNEDWENPRLCSDYVKDIYQYLRQ LEVGLQSNPHFLDGRDINGRMRAILVD WLQVHSHKFRLLQETLYMCVGIMGSD F*QVQPVSRKKLQLVGITALLAPKYEK MFSPNIEDFVYITDNAYPSISQIREMETLI LKELKFELGRPLPLHFLRRAS*AGEVDVE QHTLAKYLMELTLIDYDMVHYHPF*G* PAAASCLSQKVLDKGMEL*SQYYHK DTQENEVLEVHASTMAQECGAK*MENL NLNSIGHQRIKYAKQQT*KISMIPQLNS KAVKDLAASPILIGRS
1014	9065	A	196	526	835	FNLNFTVSLRTHSLPIPFSSNERIKPGKS TIDGPWTRRTRL*RKNLWMIQ*LWDFLF/ VLFETDSSSVARLECSGAISVHYNFHLPG SSDSPDSRSMPIVDRO
1015	9066	A	1964	33	513	
1016	9067	A	1965	1	503	GHESDNLLFVQITGKKPNFEVGSSRQLK LSITKKSSPSVKPAVDPAAAKLWTL SAN DMEDDSMDLIDSDELLDPDLKPPDPAS LRAVASCGEKKRKACKNCTCGLAEEL EKEKSREQMSSQPKSAICGN CYRGAMPS GCASCPYLGMPAFKPGKVLSDSNLHD A

1017	9068	A	1966	29	1270	PPFWPAVFQVCQYCTARMADFGISAGQF VAVVWDKSSPVEALKGLVVDKLQAF/TP GNEGRVSVENIKAAVAILPTKNPSFGHY FVQ/CLVPGKAPLWHS*DFWAGNPPGF LRPGWMFFFLKEPVETAVR*Q*AKWKT ASKLCSAL/TLGLV/EKLELQREPLTPE EVQSVREHLGHESDNLFLVQITGKKPNF EVGSSRQLKLSITKKSSPSVKPAVDPAAA KLWTLANDMEDDSMCIFCGCSLTHRW PLEHVQVE/IMMDQPKRRTRVDTFFTP RTPKFPSRSPASHFSFSIKQKT/TRPVSLIA LNTLQDLIDSDELLDPEDLKKPDPSLLR AASCGEGKKRACKNCTCGLAELEKE KSREQMSSQPKSACGNCYLGDAFRCAS CPYLGMPAFKPGAEKVLLSDSNLHDA
1018	9069	A	1967	3	498	LANRAIMSHKQIYYSDKYDDEFEYRLV LAREQLATGRELWPLRAQGISNRN*GDR IGACVRDMSCCPKDIKLVPRTHLMSES EWRNLGVQ/QRSGQWVHYMIHEPEPHI LLFRRPLPRKPKEMKLGKLTQPSFFYT AGPYLPNIFLDNIYVGLLVFFTFDI
1019	9070	A	1968	1	690	RRKAFPKRLPKMAEVQVLVLADGQGH LQRLAIAIVAKIQLLGRKGGCSYACEGI HISGNFLQNQVCSTLAFPLQA/RMNTNP SQGPYHFGAPSRIFWRTVVRGMLPHKT KAEARPLDRLKVFDPGIPPPYDKKKR MVVPAALKVVRFEAYTESFAYLGRLLA PEVGWNAIRPVAPPGERGKRKAKIH YRKKK*LMRLRKQAREETWRKKIDKY TEVLKTHGLLV
1020	9071	A	1969	2064	2561	KRFWSFALFYILKLL/CIDSIVRIGTILY STVLFFIFLKFV*LVLITFIQFAIFFGSET F*QVGV*FLIPNFFSRVLLILSEGKVI*VC QLIVLLGLNFHIVFTVYGEVVGIIYSILN K/AVIHFFIKV/YFHVKFLFLYVLLSYIT QLLF*KSSFVEVLVKLN
1021	9072	C	197	7	276	MQWRDHNYCIFXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXLARPFI*
1022	9073	A	1972	786	1502	PPPTKKEMFVPSPEQRIETSIPPFKGTG RP/PGQGRTERPPFSLEGKAGALPPLS PRTTKGEDPSETLAQSGQEGDCLNRW QHLH*SAFRPSSAEPFTRKRLEGGPAPLR YPGAGNEPGRDAEGRP*GALAGRPRWP PSHGRPPAPCHPASRGGTARKTP/GRST KPPRFPPPLGDATSGKAIPANGRKGGA MSPHRGAGPASPSRFFSHIKQGRAIPHVS SRLHFSPPSSGSR
1023	9074	A	1973	8	234	SAQMAVTTADPRVRPRVRTQLCSLASLI QTLLVHLTPEEKSAVTALWGKVNVD VGGKALGRLLVLPWDPKRSFQSPLGES VPTP*MKVGGKALGRLLVLPWDPKRS F
1024	9075	A	1974	1	169	NLYISNLPLSMDEQELNMLKPFQGVIST RILRDSSGTSRGVGFARMESTEKCEG
1025	9076	A	1975	2	219	
1026	9077	A	1976	17	795	HSTAKLY*HSTFAKRSHRNPQHPYV*IS KSLTSSINSSTSSNSGWDQLSKTNLYIRG LPHTTDQDLVKLCQPYGKIVSTNAILHK TTNKCKGYGFVDFDSPVAAQKAVSALK ASGVQAQMAKQEQDPTNLYISNLPLS MDKQELNMLKPFQGVISTRILRDASGT SRGVGFARTESTEKCEAVMVQSPSWTQ PQPYILQHPGAVLTPSMEHTMSLQFASM ISPLAQQMSHLSLGSTGYMPATSAMQG AYLPQY

1027	9078	A	1977	3	1421	CLRRLHEFGTRPPPTPLPSSPERERQESP RLGNPKVSATLHGRLPSSFMGKVWVQQ MYPQYATYYYYPQYLQAKQTLVPAHPM APPSPTTSSNDNHRISISSNSRWDQLSRTN LYIRGLAPPHTTDQDLVKLCQPYGKIVIS TKGNFGIRTTNNCKGYGFLDF*QPMQQ LKKAVSALKASGGSSSKWAKQQGQDP TNLYISNLALSMDAEQELNMLKPFQGV ISTRULRDSSGTSRGVGFARMESTEKCE AVIGHFNGKFIKTTPPGVSCPHRNLL/CV LSFAGWEGQEKGDRTPNKYIPNGRPWA *EEGRGETLLGLTLT/YTDPTTAAIQNGF YPSPIATNRMITQTSITPYIASTVHAFQ VQSPSWMQPQPYLHDPGAVLTPSMEH TMSLQPASMIPLAQQMHSLSLCSTGTY MPATSAMQGAFLPYAHMQTTAVPVE EASGQQQVAVETFNHSPYTFQPNK
1028	9079	A	1978	2	1440	NSGPSSFMGKVWVQQMYPQYATYYYYP QYLQA/KVWKAFGNTK*KGRVKNRKMML VGWQTL*TLLFLVGQKNQSLVPAHPMA PPSPSTTSSNNSSSSNSGWDQLSKTNL YIRGLPPHTTDQDLVKLCQPYGKIVSTK AILDKTTNKCKGYGFVDFDSPAQAQA VSALKASGVQAQMAKQEQDPTNLIS NLPLSMDEQELNMLKPFQGVISTRILRD SSGTSRGVGFARMESTEKCEAVIGHFNG KFIKTTPGVSAPEPLCKFADGGQKKR QNPKNYIPNGRPWHREGEVRLAGMTLT YDPTTAAIQNGFYPSPIATNRMITQTSI TPYIASPVSAQYQVAKETRENYRGSJK VQSPSWMQPQPIYFYQHPGAVLTPISM KHTMSLQPASMIQPFWPQQMSPSVH*G QHPEPYHALQPSLCKGALLGPQYCTYC RLTAVPC*GRQSGQTGRLAVRGRLNDPF SIYRFNPNK
1029	9080	A	1979	104	340	TGQSYKKRKFKWLKQINRYLTSFLF/VF KEIRSHSVA*TLEHSGAIMAHCSLKLGL SNPPASASQVAGTSGVQYHTSLI
1030	9081	C	198	2	28	MIDTHTPS*
1031	9082	A	1980	118	528	
1032	9083	A	1981	1	864	
1033	9084	A	1982	3	4258	
1034	9085	A	1983	44	1360	VWDCPGLRWASFYLRLSWRAHRPQCGT ISFVTVNAEEQEKQFVSSRTKQKAKEEK LEKCGEDDETIPSEYRLKPATDKDGKPLL PEPEEKPKPRSESELIDELSEDLDSECKE KPSKPTKTEESKAAAPAPVSEAVSRST MCSIQSAPPEPATLKGTVDDAVEALA DSLKGKEADPEDGKPVMDKVKEKAKEE DREKLGEKETIPDYRLEEVKDKDGKP LLPKESKEQLPPMSEDFLLDALSEDFSGP QNASSLKFEAKLAAAISEVVSQTPASTT QAGAPPRDTSSDKDLDDALDKLSDSLEQ RQPDPDENKPMEDKVKEKAKAEHRDKL GERDDTIPPEYRHLLDDNGQDKPVKPPT KKSEDSKPPADDQPIDALSGDLSCPS TTETSQNTAKDKCKKAASSSKAPKNGG KAKDSAKTTEETSKPKDD



1035	9086	A	1984	159	2467	EKKGSYKKAASLGSSQSSRTYAGGTAS VTKVSAFSGATSKSYSMNPETKAIPVS QQMEGPHLPNKKKHKKQAVKTEPEKKS QSTKLSVVHEKKSQEGKPKEHTEPKSLP KQASDTGASNDAHNKKAVSRSAEQQPIS EKSTEPKTKPQDMISAGGESVAGITAISG KPGDKKKEKKSLTPAVPVESKPKPSGK SGMDAGLADLDLIDTLGGPEETEEENTTY TGPEVSDPMSSTYIEELGKREVTIPPKYR ELLAKKEGITGPPADSSKPIGPDADAL SSDFTCGSPTAAGKKTEKEESTEVLAQ SAGTVRSAAPPQEKRRKVEKDTMSDQA LEALSASLGTRQAEPELDLRSIKEVDEAK AKEEKLEKCGEDDETIPSEYRLKPATDK DGKPLLPPEEKPKPRSESELIDELSEDF DRSECKEKPSKTEKTEESKAAAPAPVS EAVSRTSMCSIQSAPPEAGTLKGTVQDD AVEALADSLGKKEADPEDGKPVMDKVK EKAKEEDREKLAGEKEETIPPDYRLEEVK DKDGGKATPCPKSLKEQLPPMSEDFLLD ALSEDFSGPQNASSLNFEADAKLAGAISE VVSONPRFSTT/TQAGAPRDTSSQSDK ALGDVALDKLSDSLGQR/QPDPG*GTNQ WEG*S*REKAKAEHRDKLGRKRWTLFP PEYRHLLADNG/QDKPVEGHLTKKSEN QRNPGDDQDPIDALSEDLDSICPSTTET SQNTAKDKCKKAASSISKAPKNGGKAK DSAKATEGTSKPKDD
1036	9087	A	1985	2	788	EFSASIVGICTMPWALLLLTLLTHSAVSV VQAGLTQPPSVSKDLR/QTATLTCTGNS DNVGYQGAAWLQHHQGHPPKLLFSRN NNRPSGIHKRFYGSNSGTTATLTISGLQ AMDEGDYYCNSRDSSGNHLRVFGGAGT QVDPSLRVRQGMPPWVNFVPGPSSEEAS SPNKAHTGVVFISDFLTPGNP*QVAWKA DSQPPFKAGVETPPHPKQSNKYTDSIS YLSLTP*PGGSPHRSIQLARVTH*RGAPL EKTVAPTRMFH
1037	9088	A	1986	226	401	TSGDHWNIAPAPHENSLLLLVQGHDYK YRYFGLIVCVL*QAVTPEEPQSVPRLRT R
1038	9089	C	1987	211	285	MFYPFFNPRYFVSFGFIAMNRHTD**
1039	9090	A	1988	107	192	
1040	9091	A	1989	1	285	YIYIYIYIYIYIYIYIYIYIYNLDQSW FAPLLVCGP**AQVVTSELGNRN*SEKTF TWRICMRNIGRCSLGMQLQDYFKPFDERS KVMLVV
1041	9092	A	199	780	888	NKRNRQSSRVGTHL*SQLL/RRLRQENH LNPEGRGCS
1042	9093	A	1990	27	437	IAEGNWCVMYMPDIWVFPQAEAEEDCH SDTVRADDDEENESPAETDLQAQLQMF RAQWMFELAPGVSSSNLENRPCRARG SLAQKTSADTKGKQEQAKEEKLSDIVT NYIFFFWHMEIFTDTVSRHYNQTFGT

1043	9094	A	1991	25	1488	GGSSAAASGVSSRADAPVLAQSPASAGN GRPSTPRVPGSRRHPSAPRSGPLPREDGC RTPGPQLPLPGA\LLRPRTLSSAAEDK ARSRHPDTQHPSSGGRCRGGTESPSSAA GRPASMAEAEEDCHSDTVRADDDEENE SPAETDVQALIPMIQAQWKLEPAPRVTS SRLENRPCRAARGSLQKTSADTKGKQEQ AKEEKARELFLKAVEEEQNGALYEAIF YRRAMQLVPDNEFKITFTRSPDGDGVG NSYIEDNDDDSKMADLLSYFQQQLTFQE SVLKLCQPELESSQIHISVLQMEVLMYIF RWVVSDDLTLTSLAEQLSLVCRGFLTSC ARDP*KYARPGPALKVWGQKACIKLVS VTRPGREDVF*ERPPVS/RFDGVYISKTT YIRQGEQSLDGFYRA\WHQVEYYRYIRF FPDGHVMMLTPEEPQSIVPRLRTREYQ GLDAIPTGVITRLSPRHRTIRTQSIWLLIT KEKRKEKPL
1044	9095	A	1992	242	433	
1045	9096	A	1993	243	549	
1046	9097	A	1994	81	436	AKQGISPEGVMDVNTALQEVLKLA\LIH VWT*TRGNSRS*PKPLDKRQAHLCVLA SN\CDPE\MYVKLVEALCAEHQINLN*GL IDNNET/MGEWG*GLLLKFDRGGGKPRK SWFGCSCC
1047	9098	A	1995	3	452	
1048	9099	A	1996	3	484	PTLLVPTDSERTHPWLLSPADKTTVK/AP AWGKVGAAHAVRSMCAEALERMFLSFPT TKTYFPHFDLSHGSAQV*GPRARKVAD AL\TNAVAQRGTIDIAQRAVPLSDLAHAH KL\RVGPGSTFKLLKATGLLG*PWPGPPS PAEFNPWRLQRLPWDKVS\WVSC
1049	9100	A	1997	797	1049	SEEECCSCLPSPAGSDQRLCTHLP\CVI VNSEWGVARY*LNV\CS*PVFFSVGPK QYPYNLYLERGGDPSKEPERVVH\YEI
1050	9101	A	2	25	619	EFHRLRENPPWCSSPADKTNVKA\WGK VGAHAGEYGAEALERMFLSFPTTKTYF HFDLSHGSAQVKGHGK\KVADAL\TNA VAHVDDMPNALSALSDLAHAKLRVD PVNFQSS*SQLPCLGEPWAAHLPAEFQ LAVATSSLGTKFPGLSVEAPLLTFQITFK GWKPRVGHAF\WASPOQLLPFPAPVP PWSLK
1051	9102	B	20	103	282	EDTAAQSSPGRGEEAEASAAEAQGGEQ AYLAGLAGQYHLERYPDSYESMSEPIA HLLRP*
1052	9103	A	200	224	552	KVLRVARCGGSLLSRPSTLGGQGGRLM RSGVRDQPGQHSETPSLLKMQKLAGHG G/RAL*SQLLGR\LRQENHLNPGGRGCSEL RSRHCIPSRVT*DSISKKRRK\KVL
1053	9104	A	2000	546	882	CHVPPTLGTRGQGT\HQPFPFPHSPGAP APCPPPA/LLGPPRPFPSPVPVPGGENRK PFTSAP*A*VFPRTP\LGALS\RG*GSPVVG RGATPSPTPSPACG\PLKCWWHLIKN
1054	9105	A	2001	43	311	
1055	9106	A	2002	178	817	SPASGHCR\NGAAVAMFGCLVAGRLVQ TAI*QQVAEDKFVFDLPDYESINHVVVF MLGNNP\FPEGMGGSVYFSPDSNGMP VWKL\G\SVTNGKPSAIFKISGLKSGEGS QHPFGA/NEYCPNLHLLRLGISGELLDS MAQQTPVR*CCWYPQFDSFTQ\TQKML DNFY\NFCSSFAVSQAQMTPS/SI*KCSFR PNVVLKWYEA\FSVSNIAFYN

1056	9107	A	2003	283	840	TLFAGFTDVISIHKTGENFCLICGNGRFA VHCITLEEAKYKLCVKRKIWFHDAHTIH YLDSEVVKVNDTV*TGKITDFIKFDTGNLG RIGVITNRKKHRGSFDDVHVKDANGNRF APWLSNIFVTGKCNKPWISLPRGKGIRLT IAFHSDKWFCSDISVQNLCKRFSQGDGTGI KNSEARRCSNLQV
1057	9108	A	2004	1	966	GRPAPEDGGPLSLPNAAMARGPKKHLK RVAAPKHWMLDKLTGVFAPRPSTGPHK LRECLPFIIFLRNRLKIYALTGDDEVKKI CMQRAFIKINDGQVRN*YNLPLLGFMDV SNEKTGENFPF*SN*HPRGPLL*HRITP EAKYK/VCAKMRKIFCGPTKGIPHLVTS *CPAPHPAYPRNPLIQGEMNTHSRILET GQD/ITDFHSKFDHLVTLCMVTGGAWNL GRNWVLITQORRGTPGSFDRWFT*KDA NGNKLATSDFSNIWLLGKGNKPWISL VPRGKGIPPHHLEERDKRLAAKQSSWV KWGPWVTWSDLLVP
1058	9109	A	2005	1	383	RIRKLCNICVGESGDRLTRAACKVLEQLT GQTPVFSKIVREYELRKNNFSDTGNFGF GQEHIDLGKIDPSIGIYGLDFYVVLGRP GFSIADKKRRTGCIGAKHRISKEEAMRW FQQKYDGIILPGK
1059	9110	A	2006	3	224	
1060	9111	A	2007	176	384	
1061	9112	A	2008	2	669	IMAQDQGEKENPHAGNFAFRKLVNLIC VGESGDRPTRAQAQVLEPAQQGKTPCVF PKA*HTPVKSLWASRRNEKIAFPTATSS EGAKARRNLCRRGLKRFSEYGVQDNTT FSGYWETFGFGIQAHEIDLGKIDPSIGIY GPGTSYVV/LGVRPGFQHPQTKKPGQGG CIGAKHRISKEEAMRWVQQKYDGIILP GQINSPFLSKSNKKFSVNKKNNKKITL
1062	9113	A	2009	688	884	CSCVWNLSFHGNFHLKTPYSRIKKAKH /WMAHVYSPITLGGRGGWIT*SQEFETSL SNIHKPCLY
1063	9114	A	201	41	320	
1064	9115	A	2010	442	780	IEFVIKKIFFPFSHCLICLAIDLQLQ*YMG VPRIMQLKTCYVRGKYRGVLEEQNIL WK*IHIPQVREDGRPCLPLRKLGGKGG GGGEPLNQHGDPVQGNPPYFLFCHMRN P
1065	9116	A	2011	136	219	DPAREGHPVCCAGQRPCVDGHGQEKGF LKAALLEVELGASNPW*DTEVKPQSALP QASALTIWVSQQGVLSATILYEILLGKA TLYAVLVLSALVLMAMVKKRDF
1066	9117	A	2012	3	762	TLRGAVLRGAAGRLGGGLLVLAGRAM GLSAVGRTRAESGTAERAAPVFLGLQA VSTDTQMFGPGTRLTVLEDLKNVFPPEV AVFEPSEAEISHTQKATLVCLATGFPPD HVELSWWVNGKEVHSGVSTDQPPLKEQ PALNDSRYCLSSRLRVSAFWQNPNNHF RCQVQFYGLSENDEWTQDRAKPVTQIV SAEAWGRADFGFTSVKSYQQGVLSATI LYEILLGKATLYAVLVLSALVLMAMVKKR KDSRG
1067	9118	A	2013	1	1010	RYSFCKAVMGIRLLCRVAFCLAVGLVD VKVTQSSRYLVKRTGEKVLECVQDMD HENMFYQYRQDPGLGLRLIYFSYDVKM KEKGDIEGYSVSREKKERFSLILESAST NQTSMYLCASSLFNSGYQETQYFGPGT RLVLLEDLKNVFPPEVAVFEPSEAEISHT QKATLVCLATGIFPDHVELSWWVNGKE VHSGVSTDQPPLKEQPALNDSRYCLSSR LRVSATFWQNPNNHFRQVQFYGLSGN DEWTQDRAKPVTQIVSAEAWGRADCGF TSVSYQQGVLSATILYEILARGRPTLYC

						LCW*APLVLMAMVKEKGFLKAALEVE LGAF
1068	9119	A	2014	344	463	
1069	9120	A	2015	1075	2102	QQKPGQPLFLGSISPCKSFKTRKQKSSSK AEYNLTACKCLLCKRKYSSQIMLKRM QI/RPQDNSFWNKL*KRKR**YCQQFRN KS*S*TSRFCRIFTPFHYPFSTE/CN*REQII QMKKRTHRQHRKIKLNKTLK/CPKSTSP SAAGGQKTRKPKLSAGDFKQLYCKL CKRQFTSKQNLTKHIELHTDGNNIYVKF YKCPCTYETRRKRDVIRHITVVHKSS RYLGKITASLEIRAIKKPIDFVLNKVAKR GPSRDEAKHSDSKHDGTSNSPSKKYEVA DVGIEVKVTKNFSLHRCNKCGKAFACK TYLEHHKKTHKANASNSPEGKNTKGRS TRSKALV
1070	9121	A	2018	1	408	SNPRVRGGGTHRSQGAFANMCRGGR MFAPT/KTWRRWHRRVNTTQKRYAICS ALAASALPALVMSKGHRIEVPPELPLVV EDKVEGYKTKAEVLLLKKLKAWNDIK KVYASQRMRAKGKK/RCGR*ERKEGC CWC
1071	9122	A	2019	28	1437	EERGCFSPLPLACARPLISVYSEKGESSG KNVTLP\AVFKAPIRPDIVELCSNPNLRK NNRQPYAVSEL\AGHQT\AE\SWGTGRA GGSKFPEVRGGGTHRS\GQGAFGWMCRR GGRMFAPTKTLGRRWNRVNTTP/QK RYAICSV\ALAASALTSNWVMSKGHRIE VPELPLV\VEDKVEG\YKKITKEAVLLL KKLKAWNDIK\IVYASQRLRA\SKGKM RNRRRIPGAGGPCIYNEDNGNKAFRNIP GNYSAM*AKLNILKLAPG\GHGGVRFCA WTEKCFSGKL\DELYGTWR*S/RASPQRS NYHSFPLHK\MINTD\LSRILEKPQRSQRA PPGHHAKKIHR\VLKKNPTEKTLRJML KLKPHMQKTHAAGTTHSSPRPRNHKLRL V\VDKGKLLHQRHLQAKSDEKAAVAGKK PAVG\KKGKKAP\VG\KK\QKKPLVGKK\ AAATK\KPAPEKKPAEKKP\TTEKKPAA
1072	9123	A	202	80	518	VGPLTPNSVLPRGSV/LPTEVGLDALGEG LKGLCGPNPVVETTNQGFPMKQGVLT GRVR*ET*DQSTQDSASCYSTCPAAQTA AYCSE/ASSVPRKIKRLQNMLNFWPRE* RRLRRSARNKLRRDADFPLCELLLSLN PVRNKIF
1073	9124	A	2020	1	2196	
1074	9125	A	2021	1	207	
1075	9126	A	2022	1	1062	
1076	9127	A	2023	171	476	LPRFQTLRNTETEDHSCCCSGRRRFAAA VASRSQ*GNPASLAGSSTTGARSCAPVA RTQRCPRCAACGCWRWRTRWICSAKG WFAHSQFSARIDWLQFLEW
1077	9128	A	2024	1	781	

1078	9129	B	2025	1	1602	MGYRARI RNHVWLATQNHSTLVTERSA VPFLPVNPEYSATRNQGRQKLGRFNARE FGNLIIDILSESKRRQQARAEQPHSAAAA DGVTFSPVPTPTFRHSYAMHMLYAGIP LKVLQSLMGHKSSISSTEYTKVFALDVA ARHRQPTRRKAPAVLGQCRAIATRERPG WFHVAEVRASRRGRSPTQCADPGWASI SRGVLVCDECCSVHRSLSGRHSIVKHLR HSAWPPTLLQSGFPGPSRRAAPRAARGP TPRTEEAAWAAMALTFLLVLLTLATLCT RLHRNFRRGESIYWGPTADSQDTVAGSP DHGLLAFAYHRLVRFLWVLCPGWAFF LVNSSRGGVFNPIHPCPRHGQARFAGV GRAEDVTFLYHPCAHPWKLQALLAY ACMANPSLTPDFSLTQDRVDIEQLDPRG RTPHLATTLGHLECARVLLAHGETWA RENRSWTVLQEA VSTQDLELVQLVLR YRDYQRVVKRLASIPVLEKLRKQRSYL PGRPLARLRRSVNSSGAVGMIKSES MGR WVFGP*
1079	9130	A	2026	2	692	ENRSGFQSRRIYSISKQKKLTFFDVKD NT*SWNAVASREECYLG VIT*SRTLGRS *TKDRLRRT*SMPCYSDSM/ISMQLEFR HLNTIQKMRCELIRLQHOTELTNQLEYN KRRERELRRKHVMEVRQQPKGLKSKEL PNKKSSFQGYLQNSQTRQYKALRNHLE TTPKSEHKAVLKRLKEEQTRKLAILAEQ YDHSINEMLSTQAVSLLFLGQNKFSAPFL PPPE
1080	9131	A	2027	1	2933	MDDIPEARQYRHNQAYAYSIOGDGAE DDDERIVRFHTRVINHKKRKNSPRIVQSN DLTEAAYSLSRDQKRMLYLFVDQIRKSD GTLQEHGICEIHVAKYAEIFGLTSAEAS KDIRQALKSFAGKEVVFYRPEEDAGDEK GYESFPWFIKRAHSPSRGLYSVHINPYLIP FFIGLQNRFTQFRLSETKEITNPYAMRLY ESLCQYRKPDGSGIVSLKIDWIIERYQLP QSYQRMPPDFRRRFLQHIFVLRERPET
1081	9132	A	2028	6994	7054	LISTSDLYFL*DL*VRCKQTGVLPWFHTT TIPRSSLEVNPFRPTYHLCEL/SASYLTSW YLSFLIWTMG*LLHLHHTELL*G*SNKSC *VLCMEPDTVTAHSAVCTQFW/SNVDKN NNVISLRKSFLEFF*QSFALVTQAGVQWR DLGSLQAPPPGFTPFSCSLPSSWDYRRP LPRPANFLYF**RQGF PETGFHHVHHVG QADLELLTSGDPPTLASQSAGITGVSHH VQPEGFCNCCC VVESGPFKERVG
1082	9133	A	2029	411	713	TNSLYGLNIYLEIDQHFRNMKIYRSNSLI LILILLHLYCIFALSDL/CSH*PQVAI*KEIN WPGAVAHTCNPSTLGNRGRWIV*GQEFE TSLVNMAKARLY
1083	9134	A	203	63	552	
1084	9135	A	2030	3	84	SGSTHASGGLQASRWRRAGTSRCSVSSL TSTSTASLRGLPTVATGLRSGSWTSHHG VAG*GRPTRPVGSRRRDGGERVRVGAL CQA
1085	9136	A	2031	3	519	SRWRRAGTSRCSVSSLTSTSTASLRGLPT VATGDYPPPDQASSNLTLSPPPGHTHCG NRGQPWPVLRGGANAAASSSSRPEQG GGS/SSFARLSSTHGTGGGEGVKAVSSA *GP/GGLPGTLNLVGGGDVTDASLSALT GGLEGILEKP*AGRCPITDGNPREEGREP RAG

1086	9137	A	2036	247	1294	MPNTAMKEKRCLLMGERSGSGKNQAM/ RSIIFAKLPFARDTRRLGATIDVEHSHVR FLAGNLVLNLWDCGGQDTFMENYFTSQR WNIIFRNVGSDFKVFDVESRELAEKDMH YYQSCLEGHPRTLPAKINFCLVHKMD/ LLVQEDQORDLIFKEREEDLRRLSRPLEC ACFRTSIWG*GRFYKAWVQAFVYQLD FPNVSAAGRLNLRDFAQINEAD/EVLLFE RSVTFVLVISHYQCKEQRDVHRFEKISNIN KIQFKLSCSKLPASFQSMVVRNSNFAA FMRHLFT*NTYVMVMSDVPDPLGPL LINHSQCPCGNHFEETGRELNGPQATVFP YGVVEYQNALSEKA
1087	9138	A	2038	311	458	
1088	9139	A	2039	1271	1540	
1089	9140	A	204	1	69	SGVKNGRGYVVGISGGTTNKVSP*SRVS *PMAVSACY*VKNGRGYVVGISGGTTN KVSP
1090	9141	A	2040	176	552	MRSSKQMKPNFPRCSSITVLSVRGMVLF LTLACPRFKMSSRTDFRFGNPQVT*GSTI CSIFRLPSILSMRTTK/DQGMFIWQFQGM RFHF*SSETHLVTFLLPGIM*E*FQSLKPE PFSLLSCYCH
1091	9142	A	2041	204	401	WHEFTGAENHCKTLPKENF*WCLCKSH PSEPKNAAYNRTLCDLGISKSEVSLGTSF EMWTSQGGQE
1092	9143	A	2042	123	311	PSRRLGHPRWALSPHLLLPQRFCWVS FAPASCPC/DLFISRDRSSSVGLMKHRM LGLAELL
1093	9144	A	2043	2459	3030	TSPSTSLRPAPIPSPSPSSRPSSQTTSAA SSPSSAWPKAASRQGA*RCRE*LPSWTS QSSPPLKSWGLDSAPPPPLSTCLSASTTR GAGAAATPQCSAPCLHR/CDKVPGFAVA QCINQHSSPSLPHSRHPPAGAPAAAGA PATATLEAPARPPPPQPRVQQSGVAGK DADECSACRRPTVMAATGF
1094	9145	A	2044	1125	1695	DFFSKIDDSHLQVLFFENQLLILFFPHFLN DCSNSLFFSEMSRSVAQLECTG/AILA HCNLRLLGSSDFPALASRVAGTTGTCHH TQLIFVFLVETGFHHVGQAGTCMQSCLI KGLRENHLNPGGGGCNEPRSRPLRSSLG NRVRLSQREKQNP*DAQVSEKGLNTLEL QAKF*GVSHVFPGER/VSLISQNP*PFWK KVIKQVSRLRFKKPQDPFRASQSLRIFQS HH*KSWNTYSQQRQVILFLCLSSVYFK SFSKQGPRTLQIQLCPWAWSTCCRSRLRE PCTNARVTHLPTLNPRIEDATKQDSLH GMVPIVRQQGHRM*ENAGEFFPWELGL WMRGCFAGHTIRLLSFL*PFLSSF*R*SR K*SSLKMLDKNSQNNKTHASTSLIKNLP HLAPKSMATATKSNFKELRFLQQR*FT SSSP/CLKISY*YYSSLISI*MTAAIVFCF/C FSEMSRSVA/QAGVHWCNLSLQSLPP GFKRFCSLSLSSWDYRHAPPHAHFCIF SRDRVSPCWPGWSQSPGPHGLPAWASP KCWDYSREPPRPGQQYSFVSRTSLSPIT LRLCIAPCPNQAFTDPSRVLHLFVPASSIP PNLKVTLY
1095	9146	A	2045	1	577	PLKRS DGCNDGRPTRPPTRPDTTVFTSNL KQTRMVHLTPEEKSAVTALWGKVNVD VGGKALGRLLVVPWTQRFVFEFGDL STPDVAMGNPKVKAHGKKVLRGAFSDG LAHLADNLKGTFAHTEVSLHC*QACTW DPGELQGSWGNVLCVAGPITFGKRIST PPVAGLPNQENWLAWCWLNALGPQVIT
1096	9147	A	2046	16	370	
1097	9148	A	2047	1	1125	

1098	9149	A	2048	1	1941	MWKHLWNWVIGSGWKTLDVLEEDRKT KENLVLLRDFSSGCDQSIDRNMDESVQA DEFSDRNEEVIGNWSKGQPCYTLAKDLS ALCPYPKALWKVELKSDDLGEIPLELQR LVHGGQVNLDMEDHQDQEYIKPRLRFK AFSGEGQKLGSLTPEIVSTPSSPEEEDKSI LNAVVLIDDSVPTTKIQLRADGSRLIQRF NSTHRRRAVNGPSNQLPDKPGSPSPFCL APLITVCPAADDPSPALWLHLVAARSTS QRNGQVLCYLPRKWGAVAVCTSVEACC WVFWLLERQNDSGMQLGGPPPSAIFRW LAAPAADAPAATSGAGCLATAGGAKTR KLALAELEYDEVKCKSSKSNRPKATVFK SPRTPPQRTVKNWFQLIAPNAGEDAEQQ ELAFIAGGTAKWYSHFGRPFGNLLQRAT WNVSRKLLRTTQISGSLRYWGFPGFQAK VAATLAKQEVIPPYLSLGRGAEFKGLSQ NSLQAPLHGTSGQKKNDYPETA VLPKLP REKVSRRERKLASSRCLSLGTCMSEEA FLVITNSSSCSEGGFPYLIAGKYAQDFG LVEEACFPYTGTDSPCKMKEDCFRYYSS EYHYVGGFYGGCNEALMKLELVHHGP MAVAFEVYDDFLHYKKGIYHHTGLRND PFHPFEL
1099	9150	A	2049	1	2077	MTYPENIQIKKITGVQWMVPLKYKEEGS KVTTYCNETMTGWVHDVLGRNWACFT GKKVGTASENVYVNIHLKNSQEKYSN RLYKYDHNFKVKAIAIQKSWTATTYME YETLTLGDMIRRS GGHSRKIPSSVPLCSS APLDVQLLVSPAKILGLYGGRMGMA GQKAPFLRAPVIGVSFADSFQPSRLQDSP QLFNQGGQLLSAAQV GSSGSQRDVNCSV MGPQEKKVVVVYLQKLDYDLDLGN SGV HFTIYNQGFIVLNDLQVGLPFFKYKEG GAARVTTYCNETMTGWGA*CVWGRN WAICFTGKKVGTASENVYVNTAHLKIN SQEKYSNRLYKYDHNFKVKAIAIQKSL TATTYMEYETLTLGDMIRRKWWATSR KIPR/PKPAPLTAEYSQKI/LLHLPTSWDW RNVHGINFVSPVRNQASCGSCYASFAS MGMLE/ARGIRILTNNSTPILSPQEVVSC ISQIYAQGCEGGFPYLIAGKYAQDFGLV EEACFPYTGTDSPCKMKEDCFRYYSSSEY HYVG/GFYG/GCNEALMKLIELVHPWGP WEVCFLEVYDDFLHYKKGDPTPHTGLK RPFSTPFELTNHAVLLVG YGT* LKPLG MEY/WIVKNKLGAPAWGLRNGYFRIPR GTDECAIESIAVAATPQFLNFRGRLPSIFI NGSASSCKGGIGIFTDCRLSTSIFRSLQID FP
1100	9151	A	205	379	540	IKKVRNLGPKHPRFSVLLLVHSCSTNGG VLL*RSSVPRKIKKRLQNMLNFWPRE
1101	9152	B	2050	59	466	MSAAMRERFDRFLHEKNCMTDLLAKLE AKTGVNRSFIALGVIGLVLYLVWLP SLHLCGFLWCMAPSPSNGAELLYKRIIRPF FLKHESQMDSVVKDLKDKAKETADAIT KEAKKATVNLLX*
1102	9153	A	2051	1	915	
1103	9154	A	2052	1	3180	FRAAVAAPVYPALGTAPGGETVPEMTA AMRERFERILHDKNCMTDLLAKLEAKT GVNRSFIALGVIGLEALYLVFGYGASLL CNLIGFGYPAYISIKAIESPKNKEDDTQWL ITYWVVIYGVFSHC*NSFSDIFLSWFPF* LHG*KCGFLVGWCMAPPELLNGG*NCS KRRIRSFSPGSTKSQIGQVLVKDP*RPR PKETADANH*KKPKKSLP*ILLG*KKKKK GGR
1104	9155	B	2053	171	256	XVDPASSQAMELSDVTLIEGVGNEVMV VAX*

1105	9156	A	2054	187	437	PWS*LGSFLT*QTAVQPAPGRYCVSRRI RPPPGACGPPGGTANGNPEPTLPHPSEG NDEKAEAEAGEGRGDSTWGGWSWGC
1106	9157	A	2055	2	165	NQHHHTLPPSPHYHPQ*G*HQRAPWP GCWQGPGRNKGQHQAEPEGLQPL
1107	9158	A	2056	1	506	SPASQCHHYPLMMGSSVVRGAFGLPP VGPHAPGVGRMCRLLTQ*RPGAGCYRC LLRR*RAKLGPRLESAPHLPPSPHYHP PQ*G*HQRAPWPGCWQGPRTAR*GGV PHPFSEAKVPLLDGPIPSALDWGPWAHP NRRAAWPQPP**DQLSRPVRSRVG*GGH KP
1108	9159	A	2057	496	1092	QPAPGQLLCHLATHPPPPGACGPPGAG QGKPEPTLPHPSEGNDKAEAEAGEGRG DSTGEAGAGGGVEP/RP*ASP*HPRPAQK TSRCRQQSRGPPEI*G*HLPPSQWPHH CAAQIPQ*YRGAGCG*ARGYRGCPPEEQI LPWTRKPDETDLPGPPATRPSPHTAFSEH YRQLCDSLPLTPRVCSRPLSLGLPLGH
1109	9160	A	2058	155	701	PGLFRRGLPHPGTGPVQSPFNFP*/PPR/GP EAPPP/RSPAPPRSLRGVDGL*PP*PTLLT GRDNWSY/PEAGARQPFSGGPMDDPSA PRE*DHPKAESPQKKGAGPLLTVRSRY GQGRSQAEGQSKDP*GRTPGVLPGPSR EFPVSVPIVFVLCRRFFSCKSWIMTLTFL PSGVSCGCDK
1110	9161	A	2059	1	506	DRDAEFYKFLQENDQSQLNFSDDSSEE EEESFHSPLPYVLEEAFAAAVATT/RGD QESAEANKFQVTDSAVFNALVVFNALV TFCIRDLTGCLQKLLIGKVAKDSSRMLQ PSSLLWGKLRVDIKAYLGSVIQLVSCV AETVVLAAVLWHISVLVPCFLTFFPKQCS RE
1111	9162	A	206	287	449	IKKVRNLGPKHPRFSVLLHVSCTNNG VLL*RSSVPRKIKKRLQNMLNFWPRE
1112	9163	A	2060	9	2295	VGCTLRVGVMAAAGSRKRLAELTVDE FLASGFDSESESESENSQAREAREAA RSPDKPGGSPASRRKGRASEHKDQLSR LKDRDPEFYKFLQENDQSQLNFSDDSSE EEEGPFHSLPDVLEEASEEDGAEEGEDG DRVPRGLKGKNSVPVTAMVERWKQ AAKQRLTPKLFHEVVQAFQAAVATTRG DQESAEANKFQVTDAAFNALVTFIRD LIGCLQKLLFGKVAKDSSRMLQPSSPL WGKLRVDIKAYLGSAILMSCLSETTVL AAVLRHISVLVP*FLTFFPKQCHMLLKR VVVWSTGEESLRVLAFLVLSRVCRHKK DTFLGPVLKQMYITYVRNCKFTSPGALP FISFMQWTLTELLALEPGVAYQHAFLYI RQLAIHLRNAMTRKKETYQSVYNWQY VHCLFLWCRVLSTAGPSEALQPLVYPLA QVIIGCIKLIPTARFYPLRMHCIRALTLS GSSGAFIPVLPFILAEFQQVDFNRKPGR MSSKPINFSVILKLSNVNLQEKAYRGGL GWSSCYDLNPGSYLHSAHCIGFPELVL PVVLQLKSLRECKVANYCRQVQQLLG KVQENSAYICSRQRVSFGVSEQQAVEA WEKLTREEGTPLTYSHWRKLRDREIQ LEISGKERLEDLNFPEIKRRKMADRKDE DRKQFKDLFDLNSSEEDDTGFSERGIL RPLSTRHGVEDDEEEDDEEDSSNSD GDPDAEAGLAPGELQQLAQGPEDLEDL QLSEDD



1113	9164	A	2061	203	1383	MSSFGYRTLTVLFTLACCPGASDEKVF EVHVRPKEAGRLSPKGSLEVNCSTTC NQP*SGVGLGDLSD*GFCWDEQVQLGN NYLGLKHFFIDTVLQCHFTLASGKQESM NSNVSVIYQPPRQVILTQPTLAVAVGKS FTIECRVPTVAEPLDSLTLFALFRGNEILA LWRTFRGRAAPAPQGGPQPHSNSTADR RGLAHRKLSPLAVLADLMSRGGWNIFHK VHSAPKMLEVYETCVRTSPDWSSSLVTGG VGVACPLFVTSVLLCFIFGQHLRPASG MGTYGVRAAWRRLPQAFRPIATHGVA WPHTTVVTGTQCDSSGLRYQPWLKDCD RQORLGTLPFLARIQTPGLSPVPTVSPGI TMAREGSHHGGLSLDASLPTLSFTGWH EA
1114	9165	A	2062	503	1808	TTVQEESTVDSQPVPNIDHLLTNIGRTGV SPGDVSDSATSDSTKSKGSWGSKQDQYS RELLVSSIFAAASRKRKKPKEKAQPSSE DELDNVFFKKENVEQCHNDTKESKKES ETLGRKQKIIAKENSTRKDPSTTKDEKIS LGKESTPSEEPSPPHNSKHNSPTLSCR AILKESPRSLAQKSSHLEETGSDSGTLL STSSQASLARFSMKKSTSPETKHSEFLAN VSTITSDYSTTSSATYLA*PGLQSTEP*GA VSAESKGDEADDERSELISEGRPVETDS ESEFPVFTSLDFREAFPRKTARSTKSSR RNSEGESELSCTEGSLTSSLDSSRQLFSSH KLIECDTLRKKRSARFKSDSGSLGDAKN EKEAPSLTKVFDVMKKGKSTGSLTPTTR GESEKQEPTWTKIADRLKLRPRAPADD MYE
1115	9166	A	2063	2	527	DPEADSIRAEMSRVALAVLALLSLGLE AIQRTPKIQVYSRHPAENGKSNFLNCYV SGFHPSDIEVCLLKNGKRIEKVHSDLS FSKDWFSFYLLPYTEFHPQLKKDEYALP V*THVTLSPAQR*FKWDRGHVKQHHGG LKMPLHGWNDKFLACFFNIDMLITLT LLCTKM
1116	9167	A	2064	3	163	
1117	9168	A	2065	611	1432	TPHLAVITNQPEIAEALLGAGCDPELRD FRGNTPLHLACEQGCLASVGVLTQSCCT PHLHSILKATNYN/GYVCLPALPHPLGGQ VTWRRGRWANLRSPGKSLNS*HLEG*E NMCACKLLDAFIKFQNPDCGFLKFRR* DYLFHKRIGERSEG*NRWVYFFFPVLP HTCLHLASIHGYLGIVELLVSLGADVNA/ QGWCFLPPTH*VRLVLMML*AEIPNAIS ISNSFWFQEPNCNGRTALYLAVDLPNPD VSLLLKCGADVNRVTYQGYSP
1118	9169	A	2066	1	1332	MVQLSPHYRGDSEDGRKRMVRQRTKPV LFFWSDWLGNSPSLTPPQRNPQAFIGRR GGAAEPTAVRAAVPPASAPARKQRAAR GPAHPQQRPLVRAMFQAAERPQEWA MEGPRDGLKKERLLDDRHDSDGLDSMKD EEYEQMVKELQEIRLEPQEVPRGSEPWK QQLTEDGDSFLHLAIHHEEKALTMVIRQ VKGADLAFLNFKTNLQQTPLHLAVITNQ PEIVEALLGAGCDLELRDFRGNTPL*SL ACEQGCLASVGVLDSSLAPPPQLHSILK GYPTTMGHTCLHLAFYPMGYWGHRGSF LVFLGVLDVKCSRSPCKWGPLPIHLAVD LQNPPEPGCSLLFESVGADVQQSLPTQGY SPPTQPHPGPPQAPRIQQQLGQLTLENL QMLPRE/SPDEESYDTRVQSSTGVSPED LAPMDDCGVFGGPRSDVMSAKGLKET
1119	9170	B	2067	169	251	XPQKEPYVIPFTGCVTQKGGVAGDAGW Q*
1120	9171	A	2068	33	445	
1121	9172	A	2069	1	1428	

1122	9173	A	207	263	525	IKKVRNLGPKHPRFSVLLHVSCSTNGG VLL*RSSVPKKNKEEAAEYAKLLAKRM KEAKEKRQEIQIAKRRRLSSLRASTFKSES SQK
1123	9174	A	2070	1268	2807	LPLESLAVQVKQHIDAVARFTGIKNCYF GFGGMSTQKPARGC*TRRPEIVVATPGR LWELIKEKHYHLGNLRQQLRCLVVDIA DRMVVEKGPFWLELLHSCFRDASNDSIQ YNPKRTKRLFFLATLTLVHQAPARNPFH KKHTKKMDYTAQLDLLMQIGHEGAS PKVIDLTRE*GPRWETLTETKIPL*DLIEK DFLLVTTFLMQYSRAAA*CFANSISCIKR LASGLLKV/LLDIMALGPWHGLVWHQEG RGLRNLGSILPRLAEDCVLLAATDVGSSGV WDIPKVVQHVHPFTRVPRTSEIYVHRWS SNLLRSYQLTGLKS*LLIWGLKDVNFKK IYKTLKKDEDIPLFPADINTWDVVKERI RLARQNEESEYRNRFQACLHNSWIEQA AAALAEIELAEDMY*GEGKADQOEERR RQKQMKVLKKELRHLLSQPLFTESQKTK YPTQSGKPPLLVLAPSKERVCFSLCSLQ GRKEEGRTKEARGGPQPGTATAKLQVQ FNCPGQVCQ
1124	9175	A	2074	1	408	SNPRVRGGGTHRSQGAFANMCRGGR MFAPT/KTWRRWHRRVNTTQKRYAICS ALAASALPALVMSKGHRIEEVPPLV EDKVEGYKKTKEAVLLKKLKAANDIK KVYASQRMRAKGKK/RCGR*ERKEGC CWC
1125	9176	A	2075	3	1434	FPVAAAGLRGAWLSPLSAMACARPLUS VYSEKGESSGKNVTLPAVFKAPIRPDIV NFBHTNLRKNNRQPYAVSELVAGHTKI AESWGTGRAGGSKFPEVRGGGTHRSIG QGAFGNMCRGGRMFAPTONLGRWN RRVDITQNRVAVCSALAAASALTSNW VMSKGHRIEEVPPLVVEDKVEGLQE EPRKLFLLKKLKAANDIKKVYASRR MRGGQRQNGETVRRIPGAGGPCIYNED NGINKPFRNIPGNYS*A*AKLNILEALL PGHGGTFLAFGT*KLPRKLDELYGT WR*S/RASPQRSNYHSFPLHKMINDLS RNLEKQRSQRAPPGRGKREDPIRRVL KKNPLKNLRIMLKNPICKGPCCR/RHPF FAQAQESQSSGVDKGKLLHQHLOAKS DEKAAVAGKQPVGKTKGKGLLVFK NQKKPLVGKAAAATKKPAERSLQRR NATTEKKPAA
1126	9177	A	2076	275	652	TVNLCFSTFLWTVLYFTFFFAKCFQIHL RIYLR**LKTNSWFMLYAVMHVLLVQG QN*NKIFSVKQIYLLCTFIYTGIFW*YHT KG*NKTFTM*NSMYIFGYLHTLKPCKGI KRKHLFATTIC
1127	9178	A	2077	63	290	GGILLSISRPYKTKPTHGIGKYKHLIKAEE PKKKKGKVAVRAINLGTDYNYGVNLNIH LTAYDMTLAESYAQYVHN
1128	9179	A	2078	315	1092	RPRSSKRMSGTSEKVLCLRNNTIFKQAFS LLRFRTSGEKPIYSVGGILLSISRPYKSKP THGIGKYKHLIKAEEPKKKKGKVEVRAI NLGTDYEGVNLNHLTAYDMTLAESYA PLFSTTFCNLSH*KSEESYAMPTQNHKK WLPVCRDQGPCKLLGLKCLPHERVA VQISGLSATFARKFSWKIIPKPLP*RESG LFS*REHTERKTSRGRFQRFDPGLGRTFW AKFEVATVDPFHCQQWSYLSAKEKSL GS
1129	9180	A	208	68	280	
1130	9181	A	2080	61	346	LSLFFETEFCSYCPGLECSGVILAHCNFR LPGFK*FSCLSLPSSWVYRYPDPANFL VLVETGFHHVGPGLVLNDPLIFNLDTCY

						SAKRQFLE
1131	9182	A	2081	88	386	PHRFGKRRNKTHTLCRRCGSKAYHLQ KSTCGKCGYPAAKRKRKYNWSAKAKRP KYHPEPGRMRHLKIVYRRIQGMGFREG TTP*TOEGQAVASIQVHL
1132	9183	A	2082	187	913	STNKRSTRPPLGFEMASPHQEPKPGDLIE IFRLGYEHWALYIGDGYVIHLAAPPSEYP GAGSSGVFSVLSNSAEVKRGRLEDDVV GGCCYRGQQTAWDHGVPSPRALEG*SF SSAKEMVWFRRLKIVSIVSRNCEALCSP SLRYGQVPAVKQVKGPRFEVG/VLATA LGILVVAGCSFAIRRYQKSDSLKQPQN PVLEAAVGVPVEMSLPRCLQQPDPRALS QAFSRSFPLFPFLAGKSMI
1133	9184	A	2083	1	423	
1134	9185	A	2084	2	390	PRVRYRGVITDPQPLMEQPLGDSRYWL SSRLRVSATFWQNPNRHFRQVQFYGLS ENDEWTHDRAKPVTVQIVSAEAWSKADC GFTSGN*QQGVLSATILYEILLGKATLYA VLVSALVLMGMVKKRDF
1135	9186	A	2085	2	1027	HLPDAAMGPQLLGYVVLCLLGAGPLEA QVTQNPRLITVTDKGDVPEGYKVSKE KRNFLILESPSPNQTSLYFCARSFEQGY EQYFGPGTRLTVTEKRNFLILESPSPNQ TSLYFCASSSQRLSPGFNYGYTFGSGT RLTVVEDLNKLFPEVAVFEPSEAEISHT QKATLVCLATGUFDPHVELSWVNGKE AHSGVSTDPQLKEQPALNDSRYCLSSR LRVSATFWQNPNRHFRQVQFYGLSEN DEWTQDRAKPVTVQIVSAEAWGRADCGF TSVKSYYQQGVLSATILYEILARGRTLY CLCW*APLVLMAMVKEKGFLKAALEV ELGAY
1136	9187	A	2086	1921	1991	SFVIFDANIFFQFIG*SLLSLWM*ALLCLL VTEHLYLVLSIGHLWCVCVCVCVCVY DFLIPSHFSIDCFAKAIYILRILIFVIFDAN IFFQFIGCLLILCFR
1137	9188	C	2087	105	392	
1138	9189	A	2088	38	230	LYWQKRKGKLLNNLTQGIVADPVR*KK FHFKCPSPNCPKIHNTESAYAVSFMKYSA HVLGSLYEM
1139	9190	A	2089	487	747	
1140	9191	A	209	465	1444	KKGEKDYSWTDLILTVSPPPGPQKELARI VQTFPISLKKMMSASML*ESPLNKG*E T*GPKAPKIQRLVTPCSPNGGRIALK KQRT/TRKIKKRLQNMLNFWPRE*RRLR RSARNKLRRDADFPLCELLLWPCPAT E
1141	9192	A	2090	1	1350	
1142	9193	C	2091	179	649	MFLLVGAPKANTTQPGIVEGGQVLKCD WSSTRRCQPIEFDATELHRELKENQNH YSLKSSASFNVIEFPYKNLPIDITNSTLV TTNVTWGIQAPMPVPVWVILAVLAGL LLAVLVFVVMYRMGFFKRVFPQEEQE REQLQPHENGEGNSET*
1143	9194	A	2092	274	423	
1144	9195	A	2093	1	3849	MCGGVFATEELAVSAGLKRKMCSVVEK RHGDFQVELLLDKLKQKGAIRRALFLYS RSPSHSKNMTISRGLMQCEELIAYLRD ESEFRDKLTPITIFMEYRLDYRTAADTTG LQPILNQFTPANISRQSGFVLLTCSDQKKI YIGDDNPLTLIVKAQNQEGAYEELIVS IPLQADFIGVVRNNEALARLSCAFKTEN QTRQVYCDLGNPMKAGTQHLLSPCTQF SMQVFLFHYTASSSVVALDSHRSKPYCV N

1145	9196	A	2094	1126	2034	RCWRPRTLGFASPPTRPCSPHAPGCEM TPRDWHRVLSFASPLRIEIEFQGYDKTFG LKNKKGAKQQKFIKAVTHQVKFGQ/SKS TSGSTE*SWKRKLKDDKKKELQELNEL FKPVVAAQKI/RVKGADPKSVVCAFFKQ GQCTKGDKCKFSDHDLTGEKMEKRSVY IDARDEELEKETKSSLIQADTMDNWDEK KLEEVVNKKHGEAEKKPKTQIVCKHFL EAIJENNKYGWFWVCPGGGDIQMYRHAL PPGFVLKKDKKKEEKEDEISLEDLIERER SALGPNVTKITLESFLAWKKRKRQV
1146	9197	A	2095	1	213	
1147	9198	A	2096	2	170	
1148	9199	A	2097	3	764	PAVVCGRRLISVLEQIRHFVMMPEINTN HLDKQQVQLLAEMCILIDENDNKIGAET KKNCHLNENIEKGLLHRAFSVFLFNTEN KLLQQRSDAKVTFPG/LVLRNTCCSHP LRQSSRALRESDALGS*/GARQHRGRLES LSLGIPLEEVPEELII*HRIHYKAQSDGI WGGHEIDYILWWRKNVTLNPDNPNEIKS YCYVSKEELKELLKKAASGEKITPWFKI IAATFLFKWWDNLNHLNQFVDHEKIYR M
1149	9200	A	2098	1	299	GIPDQEVIGTGYGILDQKASGVKYTKS/D FRSPRPDDLSSFQL*VTSHWDLRLIEVTE TICKRLLNIACTRRGPAAIDLPRACQRPL RHYTTWYTKGSRW
1150	9201	A	2099	1	631	MDSMPEPASRCLLLPLLLLLLLLLPAPE LGPSQAGAEENDWVRLPSKCEVCKYVA VELKSAFEETGKTKEVIGTGYGILDQKAS GVKYTKSDRLIEVTETICKRLLNIACTR RGPAADLPRLDGSLFIRSGVRPACILVC LLVHRQKCSVAAPVGT*RH*NGENSAR STMCRKVG*ARCQRTPRACQRPLRHY TTWYTKGSRW
1151	9202	A	21	918	1872	AEKGPPSPGPSTCLANSPPPSAGSAAV PHSAPPGAAPRRSSRQRPCSPRRCWQEG AGVRAGQDGLGGSATRSAAQQSHQRQT GP/EGSTGKAKARGSTGRKR*AMGGSAA GDGA/PHVLGTGQPRAPPSTGDGARAG NWL AQGSAPTHRRWSTCWEPASPLPA SSNCCTHTWTRNCPGTAPSGTALPLPG RPAPHPEPPPPMPPPP/PPRPGL/PLGSCVF L*VERPIWREVLSPVAPPACVDTSGHEA ASGPSVPVAGTEPSRPWLKQPLCPPQQP RSWLTRRPE/AELHMPPTPLPAYLPGS/G VPQSHS*PPATLLR
1152	9203	A	210	87	904	GGWVAPETPSDPWFPVQRGVDASVPG IGKNVVC EAATSVD AFRMVTASRYYP QLMSLVGNVLRFLPAFVRMKQLISEHYV GAVMICDARIYSGSLLSPSYGWFCDEL MGGGGLHTMGTYILDLLTHLTGRRAEK VHGLLKTFRQNAAIRGIRHVTSDDFCF FQMLMGGGVCSTVTNFMNPGAFVHEV MVDVPLLYLKGMVYMVQALRQSFQGG GDRRTWDRTPVSMAASFEDGLYMQSVV DAIKRSSRSGEWEAVEVLTEPD TNQNL
1153	9204	A	2100	171	825	RANPTKPIGCAVRGPWSALKAGCGCQR RAGGR LAVVVVARRHVCSPGSGEGKLL RARPREEEPGLGSGPGRAMDSMPEPA SRCLLLPLLLLLLLLLLPAELGPSQAGA EENDWVRLPSKCEVCKYVA VELKSAFE ETGKTKEVIGTGYGILDQKASGVKYTKS DLRLIEVTETICKRLLNIACTRRGPAAIDL PRACQRPLRHYTTWYTKGSRW

1154	9205	A	2101	2	527	PGRAMDSMPEPASRCLLLPLLLVMLVL LPAPELGPSQAGTDENDWVRLPSKCEVC KYVAVELKSAFEETGKTKEVIGTGYGIL DQKASGVKYTKSISDPPDQDDLSSFQL* VTSHWDLRLIEVTETICKRLLMIACRRG PAAIDLAKVGFIVLHPLWGPGLQCNLS VSAGL
1155	9206	A	2102	3	1203	SSAAEAMRVLVRRCWGPPLAHGARRGR PSPQWRALARLGWEDCRDSRVREKPPW RVLFPGTDQFAREALRALHAARENKEEE LIDKLEVVTMPSPSPKGLPVKQYAVQSQ LPVYEWPDVGSGEYDVGVVASFGRLLN EALILKFPYGILNVHPSCLPRWGRAPVI HTVLHGDVTGVTIMQIRPKRFDVGPIL KQETVPVPPKSTAKGIGKAVLFKDWGA NMLNSVLEKFGLESLSNGRQQPMEGAT YAPKISAGTSCIKWEEQTFEQKFRLYRAI GNIIPQLTWMANTIKLLDLVEVNSSVLA DPKN*REQALIPGSVIYHKQSQILLVYCK DGWIGVRSVMLKKSALTATDFYNGYLHP WYQKNSQAQPSQCRFQTLRLPTKKKQK KNCCYATMH
1156	9207	A	2103	3	215	
1157	9208	A	2104	2	341	SKPFSLQETYEAKRNEFLGELQKKEEM RQMFVQRVKEKEA/ELKEAEKELHEKFD RFKKLHQDEKKKLEDKKKSLDDEVNPF KQRKTAELLQSQGSQAGGSQTLKRD EKKN
1158	9209	A	2105	1	130	
1159	9210	A	2106	2	3449	
1160	9211	A	2107	2	1609	FVPPPFVEAYGWGCRKNWNWAGHRGK RRVKSAPSPYPTFKGWAVEGRLGLEQRR GGPSLAPPPTGLGRARSVTLSCRRSSSV SCAVAPVAAAPVAALADAGAMAATDIS RQVGEGCRTVPLAGHVGFDSLDPQLVN KSVSQGFCFNILCVGETGLGKSTLMDT LFQHQISKGEPAHTHTQPGVQLQSNYDL QESNVRLKLTIVSTVGFGDQINKEDSYKP IVEFIDAQFEALLQEDPKVRRVLQTYH DSRIHVCLYFIAPTGHCLKSLDLVTMCK LDSKVNIPIIAKADAISKSELTKFKIKITS ELVSNQVQIYQFP/TDDSVAEIQLNP*TP HLPFAVIGSTEELKIGNKMMRARQYPW GTVQVENEAHCDFVKLREMLIRVNMED LREQTHTRHYELYYRCKLEEMGFKDTP DSKPFSLQETYEAKRNEFLGELQKKEEE MRQMFVQRVKEKEAELKEAEKELHEKF DRLKKLHQDEKKKLEDKKKSLDDEVNA FKQRKTAELLQSQGSQAGGSQTLKRD KEKKN
1161	9212	A	2108	1	618	
1162	9213	A	2109	1	427	HPVRFVHRGPH/VDFSLEVVSQWYELV VFTASMEIYGSAVADKLDNSRSILKRRY YRQHCTLELGSYIKDLSVVHSDLSSIVIL DNSPGAYRSHPDNAIPIKSWFSDPSDTAL LNLLPMLDALRFTADVRSVLSRNLHQHR L
1163	9214	A	211	217	624	GDELVKREAGMKMLPGVGVFGTG/ELPP EVLVPLLRAEGFTVEALWGKT*GGRRK ALLKEMNIAFHTSRTYDILLHQDVLVC ISIPPLTRQISVKALGIGKNVCEKAATS VDAFRMVTASRYYPQLMSLVGNV

1164	9215	A	2110	2	835	WNSAELGRGGPGAGGAGVIGMMRTQC LLGLRTFVAFAAKLWSFFIYLLRRQVRT VIQYQTVRYDILPLSPVSRNRLAQVKRKI LVLDLDETLIHSDDGVLRTVRPGTPPD FILKVVIDKHPVRFFVHKRPHVDFFLAEV VSQWYELVVFATASMEIYGSAVGRNLNW DNSRSIL*GGRYVYRQHCTLELGSYIKDP LLWFHRDLSIGVILADNSPGAYRSHPGY GGRIDNAIPIKSWVSVTPSDTALLNLLP MLDALRFTADVRSVLSRNLHQHRLW
1165	9216	A	2112	2	846	RFPLGCFPAQEPQGPVGPMPGAPAGNG HGS*SPHFHQGTGKRAALATWFNQFAP ERSPDVKAPAKPRARRIAPRPRVGVPIRP IVRCPTVARYHTKVVRPGRGFSLEELRVA GIHKKIVARTIGISVDPRRRNKSVTESLQA KRAAG*REYRSKLILFPQSPRAPKKGDS SAEELKLAHPG*PGPGHAPSGTVYKKE KARVITEEKNFKAFASLARMARANAPA LSAYRAKKSPRKPKQTDVEKPTIKPCLG TWNQSGSHAGSPRGVFRGNNWAWDGA SLL
1166	9217	C	2113	714	1010	MKSLNPHLDKIFPHKPLSSLASPSKTLVP GHLCDSTPFKFSFNLYLFPQNHPTSPH LPSPPKDKGISPIYTPHCLGGVITLILCMH FYRFVCHLSY*
1167	9218	A	2114	2	227	ERFRPPIARVIDVSNKGKVVHVAE/SCLEET GGLGVDIVLDAGLDPPDSHCLFLKGATL AFLNDEVWNLNVQQGYL
1168	9219	A	2115	3	487	
1169	9220	A	2116	1	489	
1170	9221	A	2117	2	221	
1171	9222	A	2118	353	512	
1172	9223	A	2119	1	1706	MPRAAIAQTPAPTAPAAAAARGPGRRLA ALSSPHLRAAEHDGRCSSETGCHGVLDSD LASPTPPFRSDERPDQWEQGAGSLTKDW KVAVVKVQAVGAAQRQVSPGKRVLC GKRAFKRKVERCPTPCSPGEDGGSRRRT LTWDLFGPRPSLAEEAEGHFFLPHHFAV FGKQLVVIRCMWLLSQIGPLHYAKRRN HLERDVTMGLYFQQSSTDEEITFVFQE KEDLPVTEDNFVKLVKACALSQINTKL LAEMKMKDLFPVGREIAIGVLDVGSK VSFFQPDDEVVGILPLDS*KTPGLACESL LRVHEPLLGFINPEKVTWTEAAGSISGM GVRAYYSFLHLSFFIFSPGGNQCLIMDGA KCHLRTIAIQLAHHRGAKVISTACSLDK QCLERFRPPIARVIDVSNKGKVVHVAESCLE ETGGLGVDIVLDAGVRLYSKDDEPAVKL QLLPHKHDIITLLGVGGHWVTTEENLQL DPPDSHCLFLKGATLAFNLDEVWNLNV VQQGKYL*QSFQLRLKDVMEKLSTGV FRPQLDEPIPLYEAKVSMEAVQKNQGR KKPSWFQF
1173	9224	A	212	858	992	LKSPQRPGMVAHACNHSTLGARGGWIT/ R*GQEFKTSANMAKFHL
1174	9225	A	2120	230	535	

1175	9226	A	2121	344	2631	GDREGTGRAHTEEGAGAGMHFYDVEG VDWDRVQGPRMRGLSSSVQVGRFPAPK VSGPLSICVVRQLGLASSRFARSVPFGV WKKDLPCLSLLSQSEDELTPFDMSIQVR LPFNLRIQI*KQYWLGMVAAHAGTEKDK NSVNFKNYVLQELDNPGQ*YFKISFSLI YENISTLIKEDMGHGSYSLSEVLWVCA NLFSDVQFKMSHKRIMLFTNEDNPHGN DSAKASRARTKAGDLRDTGGHISPF*IG T*LLFFYFLFF*HISIAEDEDLRVHFEESK LEDLLRKVRAKETRKRLSRCALSPGQL PTLPLNQKQAGRGGFKPPPIKLYRETNEP VKTKTRTFNTSTGGLLLPSTDKRSQVGR DAFCCCCF*DRVSLCRPGWRGLMLMGF KPLVLLKKHHYLRPSLFVYPEESLVIGSS VDHG*VTLTHSAVYGAALC/RYTPRRNIP PYFVALVPQEEELDDQKIQTTPGMWQ RYFQGF*TLPLWNHPWTPQGGGTURLA LDVSKKLETGTNCRQVKGLCWGNTGRN SKYRRAATTVLLSAVSVTHSATPEQ/VW GKMKAIVEKPRFTYR/SDSFEN/VLQQH FRNLRAALDLMEPEQAVDLTLAQC*S Q*IKRLGSLVDESKGASLPQPDYNPVEGK SYPKRKNTNK*KGLGKKRKPWK*FK KEGA*RPHIKKGVWGWKVCAPC*KEA CRGLRG*KSGLKVKQELLEALT/KHFPGL DQRPAPAAALPAVLPGCPGLVLSQLKCV SPELGRVYPT
1176	9227	A	2122	599	1063	SCSEGLNAVNNLKASRKPKCLSLKWLFL FYFP**IDSQAFYPLISKIVKRKKMTHFW TLYFMYLFLRQSLALLRPGWSAVAQSQL TVALGGL/VLRQSSYVSPPGTWNHRYMP PCPAF*NYFCRDGGLPILFRLVLSNVW*A VLSRPLKMLRLQA
1177	9228	A	2124	142	461	
1178	9229	A	2125	145	904	VINLVYLISPRPELKPVDKESEVVMKFP DGFEKFSPPILQLDEVDFYYPKHVIFSR LSVSADLESRICVVGENGAGKSTMLKLL LGDLAAPVRGIRHAHRNLKIGYFSQHHV GAAGT*TFSACGNLLGTQVFLGRPEEEY RHQLGFGMGISGELGHASSLPACLGQK EAEVAFCSDDLPCPNFLADEPTNHLG HGRAIEALGPCLQTISGVGVILVSHE*SA LSRLVCRELWVC*GRRRHPCGKEGF
1179	9230	A	2126	39	2220	GASFPVPEWNMATCAELRSEFEIDGQ VFDYVTGVLSHGSADFESVDDLVEAVG ELLQEVSGDSKDDAGIRAVCORMYNTL RLAEPQSQGNSQVLLDAPIQLSKITENYD CGTKLPGLLKREQSSTVNAKKLEKAEAR LKAKLRKRSEKDTLKTSNPLVLEEASAS QAGSRKESRLESSGKNKSYDVRIENFDV SFGDRVLLAGADVNLAWGRRYGLVGR NGLGKTTLLKMLATRLRVPAHISLLHV EQEVAGDDTPALQSVLESDSVREDLLR RERELTSQIAAGRAEGSEAAELAKIYAK LEEIEADKAPARASVILAGLGFPMQ QPNPGVSQVAWRMLALAGALFARPD LLLLDEPTNMLDVRAILWLENYLTWPS TILVVSHDRNFLNAIATDIIHLHSQRIDGY RIGDFETFIKSKQERRAQOQREYEAQQQ YRQHIQVFIDRFYANRASQVQSKLKM LEKLSELKPVDKES*VVMKFP*WV*EAL RRPFCSLDEVDFYYPKHVIFKRLSVSA DLESRICVVGENGAGKSTMLKLLGLDL APVRGLRHAHRNLKIGYFSQHHVEAA WT*TSVLVELLARKFPGRPEEEYRHQLG RYGISGELAMRPLASLGGQKSRVAFQA MTMPCPNFYILDEPTNHLDMETIEALGR ALNNFRGGVILVSHDERFIRLVCRELWG

						MRRRRIVTRVEGGFDQYRALLQEQRRE GFL
1180	9231	A	2127	45	339	PPRTPSVFAG*LRAS/STPPRSSSSSSSSSP RKGLSLRPQEALPPPPCPSRSSAPSAPR GGRGETPNKGTGGLCQSCHHPPVDVQ AVLNKCFEAD
1181	9232	A	2128	484	1879	FQQRMAKELKPCNLLQSIKAKGTS GSSLTALISQVLKAP*VYVFGELLELCNV HELAE*ANAAYLQLLNLFAYGTYPDYIA NKESLP*LSTAQONKLLKHLTIVSLARM KCIPYSVLLKDLEMRNLRELEDLIEAVY TDIIQKGLDQRNQLLEVDFCIGRDIRKDD INNIVKTLHEWCDGCEAALLGIEQQVLR ANQYKENHNR/TLQQQVEADVILPQS GNDCRGLRFVSSLIGGVRCVHLKHGD AVVWEAIEEGEALPGKYRLKGRSVWA AAVRVCMQDVITNIKTATASSAQ EMEQQLAERECPPHAEQROPTKKMSKV KGLVSSSPLGPAGAAGTHQAWVRWGG DTKGPFPLSTCSEFQTCPSPHQLPTLL VLFQKNCYSPSPTPSFPSLQTLHQC HPKTGSDTAQLPSRRFLSLCKGLVSLPVF LLPRHFVRLVISRRQL
1182	9233	A	2129	225	413	
1183	9234	A	213	1	126	FRAWTRSRSERRRRKRSSSGSEKFDK K*KKNSRRKKQHEE
1184	9235	A	2130	356	1024	GRAEPEDLENGEESAELDYQDPDATSL KYVSG*CHPPSGWG/HEDALIVHCVDDS GHWGRGGLFTALGKA/SPLKPKRIYELA GENEKTLSLGGVLLFPV***KIQDTKGKI CWT*LWLSIVNRSNVLSGI*DGSPIRRA* RRY/CLAAKKAGKSSVQPPHVDMPRK GFKRVGVPEPTLFGKHPGLQRGHPQPYH ILFPLEGKSACPFHSQFFILPSLKDSWCP
1185	9236	A	2131	3	205	
1186	9237	A	2132	3	205	
1187	9238	A	2133	1	428	
1188	9239	A	2134	36	417	QAFRKLPLFDRVLVERSAETVTKGGI MLPEKSQGVVLQATVVAVGSGSKGKG EIQPVSVKVGDKVLLPEYGGTKVVLDDK VCKP**F*KEVRYLQLVVLTNQFFHLQD YFLFRDGDILGKYVD
1189	9240	A	2135	496	751	ISLLNKHPSFFKGGIEQPVSVKVGDKVL LPEYGGTKVVLDDK/DV**F*KEVRYL QLVVSTKGFFHLQDYFLFRDGDILGKYV D



1190	9241	C	2136	92	265	MSLVIRFIKGEIWEIIMTERISGTSSGM GRHHVDAISNSDLFQSTVLSKNCNNL*
1191	9242	A	2137	330	875	AYAAGFGDSCLIAMSGRGKQ*GKVFAK AKSRSSRAGLQFPGRVHRLLRKGNYA ERVAGAGAPVYLAADVLEYLTAEILAE GNAARDWKKTRIIPRHLQLGHPATTEEL NKLA*GRVTICFRGGVPS*TSRAVLPLK KTESSPQGGQSDFDRLYLPRKRYSNP KGSFSEAPLPFORKS
1192	9243	A	2138	25	414	
1193	9244	A	2139	1	65	RTRGRTRGNLSFI*NHM*QIA
1194	9245	A	214	90	943	SPLADTFLSSGLGRTASPRPKAEARGTGR VRGLRRAVRASPGRMGRSRSSRSRSH TKSSKHNNKRSRSDKERVRKRSK SREK*RNRRRESRSRST/RHWPCPGAS GTGSAPRPRPTASTSSGARRASAGSLDE KQKARGGGEESGVPSEKFDKSK*KKN SSRKKQHEE*KNW*QKRVEEELEKRD IEREVLRRVEEAKRIMEKQLEELERQRO AELAAQKAREEEERAKREELERILEENN RKIAEAQAKLAEEQLRIVEEQRKIHEER MK
1195	9246	A	2140	293	444	SPSGYGR*SEASRRPTWCSQFQLRQPPHP EPPKSATWNQTPNIGNLSLPL
1196	9247	A	2141	544	1553	CQMRSCDRTECSFTTARICLSPLPTAFRT HTYGPKSCRSPACDVLGKGRSCRGWL RLASAWCSARVSAGSALRFPMESEM ETQSAGAEEGFTQVTRKGRRRAKKRQA EQLSAGEGGDAGRMDTEEARPAKRPV FPPLCGDGLSGKEETRKIPVPANRYTPL KENWMKIFTPIVEHLGLQIRFNLSRNV EIRTCKETKDVSDSKRQTDVKAIFILG LSGWKE*HLTLRLADDFLEISFEITDVKP LKGDLHLSRAIGRIA/GAKEGKTKFTIEN VTRTTIVLADVKVHILGSFQNIKMARTA ICNLILGNPPSKVYGNIRAVASRSADRF
1197	9248	A	2142	1055	1223	SSPGNLNVQEGFRITGLICY*KQYQY*MC FLFLL/SLYVCVVFDFLLLLFCGHPLH
1198	9249	A	2143	2	256	SPGRTAMRSWSCPCGGGGLG/SSQGRS EPGSSRLGPAPS/CGLTHPCRRGPSCPHPC PAGCRTCGGICPGPHPTSRCPPSRNCQT
1199	9250	B	2144	1	2848	MARRPRNSRAWHFVLSAARRDADARA VALAGSTNWGYDSGQLLQVTCLSLTG SWLWDAGVPAGSAVFDCAACPVPSPNG PAVCCGQEHSDSDPEYSTLPSPISAV PVTGESFCDCAGQSEASFCSLHSAHRG RDCRCGEDEYFDVWVWDDLKSSATLL SCDNRKVSFHEYSCGTAIRGTKEGELGE GQHFWEIKMTSPVYGTDMMVGIGTSDV DLDKYRHTFCSLLGRDEDSWGLSYTGLL HHKGDKTS
1200	9251	A	2145	3	630	RSGGSASSGRAEARDCWGGRSLPGDR TLEPCGGCNSCSGSPACCVAPA*GPAA AADPPACLPSLAAAGAGGGSTGTGGKAC AGTG/GG*PSCCSGPPWSTPSGRISC/CCS LVAATPGREGPSLYTSCS*KR*VCRARCP GARQ*WSPGRTATRSWSCPCGGGGPC RRGPSCPHPCPAGCRTCGGICPGPHPTSR CPPSCRCRRRERS
1201	9252	A	2146	16	716	SVLESKGQRNKGQRKGPVPAQEGSSTG KSVRSGGSASLWQGGSRTAGVGGGRC PGDRTLEPCGGCNSCSGSPACCVAPA* GPAAAADPPACLPSLGRSICAGGGSTGT GGKWRWHRSG*PSCCSGPPWSTPSGRIS C/CCSLV/CCHTY/ITSCS*KR*VCRARCPG ARQ*WSPGRTATRSWSCPCGGGGPCR RGPSCPHPCPAGCRTCGGICPGPHPTSRC PPSCRCRRRERS

1202	9253	A	2148	123	488	LKCNFRLDKYCGGTAMSGGEQKPERYY VGVDVGTGSVRAALVDQSGVLLAFADQ PIKNWEPQFNHHEQSSEDIWAACC/VCH KGDShrNVIMWLDHRAVSQVNRINETK HSVLQYVGGVMSVE
1203	9254	A	2149	2	321	
1204	9255	A	215	739	857	IIPSPNSNQLNPP***FPGNYY*YFNITQI NKDNYKTE
1205	9256	A	2150	257	565	INKDPIFVPGVWGPYFSAMVPGFWLNE GGQSVTGKLDILSTNTPHPITILGNTNSIL KTQLQHQPFLITSPHIPKTPQTSRTDQA SFLCSPSSDSLQILSL
1206	9257	A	2151	1	291	VADLTCLKGMVTGLKLFQDLEYLAILEYLA TVQAIALGTRFIEAMEAAGHSISTLFLCG GLSKNPLFVQMHADITGSNGKNEQSWE SCVPETTG*KIL
1207	9258	A	2152	1	1690	FRDDPRVRARLRAESVYLKFNRLDKYC GGTALSGGEQKPERYYYVGVDVGTGSVR AALVDIQSGVLLAFADQPIKNWEPQFNH HEQSSEDIWAACCVTKKVQGDILNQI RGLGFDATCSLVVLDKQFHPLPVNQEGLD SHRNVIMWLDHRAVSQVNRINETKHSV LQYVGGVMSVEMQAPKLLWLKENLREI CWDKAGHFFDLPDFLSWKATGVTARSL CSLVCKWTYSAEKGWDDSFWMIGLED FVADNYSKIGNQVLPAGSLGNGLTPEA ARDLGLLPPIAASLIDAHAGGLGVIG AHVRGHGLHL*GAASDVTLAVICGTSS CHMGISKDPIFVPGVWGPYFSAMVPGF WLNEGGQSVTGKLDHMQGHAAFP QVKATARMPEYILHI*TVTWDL*GRVQ PVGFSFTV*FYMFGPDFHGNRSPLADTL KGMVTGLKLSQDLDDLAILYLATVQAIA LGTRFIEAMEAAGPL/ESSTLFLCGGLSQ E/YPLFVQMHADITGMPVVPVARGGSPF LCGA AVL GACASGDFASVTEAMAKMS KVGVVFPRLPE
1208	9259	A	2153	1	479	AATSWGAAQTISSPILDKSLPADISIEDQQ CLVFRDVAPQAPVHFLVIPKKPIPRISQA EEDQQLLGHLLLVAKQAKAEGLDG YRLGE*LLALGPSMPNHSYFSI*SSFFDL CHDPDSLTPSSISVINDGKLGAQSVYHLH IHVLGGRQLQWPPG
1209	9260	A	2154	284	604	RERRDIGGCWSSSAWGNPREWGFLGN DQGRCTGSLRGPTSREHKTLAGPHKRIV SWGGS CPRIGEDGWGCS PRSWLAGAL ATFIP*KAPFPRITPG*RRRPAATYVPLS L*LLGH LTPMWLSRQQLRGLGDGYRL VINDGKLGAQSVYHLHIHVLGGRQLQW PPG
1210	9261	A	2155	496	1579	NCLNSFSCSMNQMYLLIALMTIEYNLAY DSYYICHFIFKIVYKLTDFLQMR*ILM QIFW*GSLFLL**FQLIRDLPFAFSR*KL CPHLLKYKGILWKQILVLC*R*ILILMC DLFALSGIIVFLSFIMRKFSHL*VTVKFIY MSIPRRPVQIL*EHLGLQDIIGI*ILISCY** ENRYSIVPLF/CF/VILITHFGFFSLF*I*LL VFV**F*FNNPNQYI*FI/CFLSNLTTFFL CFLVGG*/CFVKGIV*DHCFHTCFTLHV *STFIY*AFGLE*FHQMNTFW*FVMSSSN CYTLLGT*Q*ICKGKRNNFLYSANLNFJ** IHFFLKI V WIDCF*NTNLWLWFFSSAFP ASK
1211	9262	B	2156	302	451	XEFLFKHPKRTATLSMRNTSVMKKGIF SAEFLKVFLPSLLSHLLAIGL*

1212	9263	A	2157	1	765	PPLSPGAHVGRGAPTSAPPPAAEAHPA ARRGLRSPQLPSGAMSQNGAPGMQEES LQGSWVELHFSNNGNGGSPASVSIYNG DMEKILLDAQHESGRSSSKSSHCDSPPRS QTPQDTNRASETDTHSIGEKNSQSEED DIERRKEVESILKKNSDWIWDWSSAGKI FPPKEFLFKHPEAARPTLQA*GNRAVMK KGGIFSA/ENFLKVFLPSLULLSHFAGPSG LGVIYIGKGVLTSTSTFWMKELGVLT R
1213	9264	A	2158	1	381	
1214	9265	A	2159	2	312	
1215	9266	A	216	263	425	FAFQKFYIYTYF*KHTL/WLGAVAHGCN PSTLGGQGGQIT*DEEFETTLDKMVKS
1216	9267	A	2160	1	576	
1217	9268	A	2161	2	313	VSYYHFHRMEKAHPEPGTWDSFLEKFM AGE/VWA*LEEGGCEAEGWWL*RTATL CRCPLPASLVSYGSWYQHVQEWELSR THPVLVLFYEDMKVPRPTVMLPPM
1218	9269	A	2162	901	1848	RRNMELIQDTSRPPLEYVVKGVPLIKYF AEALGPLQSFQARPDLLINTYPKSGTT WVSQLADMIVQGGDLEKCNRAPIYVRV PFLEFKAPGIPLRMETLKDTPAPRLIKS HLPLAALLPQTLLDQKVKVYVAAQRKR SVAVSYHFYHMAKVHPEPGTWDSF LGESSVLV*KVVLADSWYQHVQEWEL NRTHPVLVLFYEDMKENPEKGRFQKDP WSLGGRLQEKTGDFQVQHTSFKEMK KNPMTNLHPTVPPGSSMDHSISPL*GK GMAGDWKTITFTVAQNERFDADYAEK MAGCSLSFRSEL
1219	9270	A	2163	3	287	
1220	9271	A	2164	75	301	AHKKLRAAPLAPMTGTH*KIVFVKAGD KVKAGNPSWVMFPMKMEHTIKSPKDG TVKKVIFYREGAQANRHHSFSRV
1221	9272	B	2165	63	368	MKGGRSPASPAKADGSHCDPKTAPKAK EAPAPPKAEAKAKALKAKKAVLKGVRS HTQKRRSACHSPSGGPRHCDSGGSPDIL GRAPPGETSVATMLSSKFR*
1222	9273	A	2166	153	370	LIAGAFRKASGGNNIFRRPKTL*LRRQPR *PQKSTPRRNKLGHYAIKFPLTTESAVK KIEETNTLVFTVLV
1223	9274	A	2167	842	1770	CTPEKCLPAVHRRNWLRNAEPPVWKRH LSPICRKRQGRATKPKRRPWYTPPTRR VRDVALRPYSRH/GRQPHAKKIRMSLT FRRPKTLRLRRQPRYPRKSTPRRNKLGH YAIKFPLTTESAVKKIEENNTLVFTVDV KANKHQIRQAVKKLYDSVAKHTEERR HDEQNILTREAKNRNDNTRNARTETN TETQKNSGYQALISFHSYSDSDNKAH LVSYQSGQCTYDRLGWNLLIRMTCSL QHTYDIQSTQIASCFHPVSVRVNRLYC ANYGGISAVFMPLRKELLILTRSSNSKVS QLRI
1224	9275	A	2168	3	281	
1225	9276	A	2169	353	605	EMAPKAKEAPAHKAEAKAKALKAKK AVLKGVRSHT/RKKKIRMSLTFRPKTLR LRRQPRYPRKSTPRRNKLGHYAIKFPLT T
1226	9277	A	217	2	660	FVTRPDAGVMRLPLVLLAVLLAVLCK VYLGLFSGSSPNPFSEDKRPPAPLVTDK EARKKVLKQAFSANQVPEKLDVVVIGS GFGGLAAAILAKAGKRVLVLEQHTKA GGCCHTFGKNGLEFDTGIHYIGRMEEGSI GRFILDQITEGQLDWAPLSSPFCIMVLEG P/KWPKGVPHVQWRESLHSGPQG/GSFH RRKLSLTSI*SWLRWYPVEPLMPSC

1227	9278	A	2170	301	946	PGSYLKPLSWTVALSRLPGFMSRWPCQR LTWQRRSVTQASGASGASLCASRLPRDK TAPKAKEAPAPPKAEAKAKALKPKKAV VERCPHTHAKKRIRMSPTFRPKTLRLR RQPRYPRKSTPRRNKLGHYAIKVFPLTE SAGKKNKKNNTPLVHCGC*RPTRHQIR QAVKKLYDSDVAKVTTLICPDKEKKA YVRLAPDYDALDVANKIGII
1228	9279	A	2171	1	1602	
1229	9280	A	2172	243	620	LLTSSKVMNLSLLEVFS/VSSSRSPSPGP NHTSNSSNASNATVVPQNSSARSTCSLTP ALAAHFSENLIKHVQGW PADHA EKQAS RLREEAHNMGTIHMSEICTELKNLRS LV RVCEIQATLREQR
1230	9281	A	2173	3	688	QRSFLRVPQSPIPLLQDPNLLRQLLPAL QATLQLNNSNVDISKINEVLTA AVTQAS LQSIHKFLT AGPSAFNITSLISQAAQLST QAQPSNQSPMSLTSDASSPRSYVSPRIST PQTNTVPIKPLISTPPVSSQPKVSTPVVKQ GPVQSATQQPV TAG/PGPRS/SEPVSRR SSALK*PEKSITWVPIHTSNSSNGIQMAT VVPQEFLARSTCSLTAGTSSTLQ
1231	9282	C	2174	1	1038	MEDFTTPLSTLASSMRQKVNKDIDLDS ALQQADVIDIYRTLHPKSTEYTFFSALHC TYSKSDHVGSKALLSKCKRTEITNCVS DHS AIKLEFRIKKLTQNR TTTWKLNNLL LNDYWVDNEMKAEIKVFFETTQHDQNF TKARCIQEHRTYPYSQSFKLKAETRDPSF TKNVQKMKRVRDADLAVAALSRLRGK VWVKAWPPLRGRCV LGCCFLAFCIRSL MDVKHSCPVCQRELFYHRLRPRSPRSA YLAVRDIGPKMARDTVNLWPQARDPSE NASPALLQTHAEKVLVRRVGSGLGTTLP RRGDDPTPERQISFLKCLLKL SHGFGSE GAMPEEISH*
1232	9283	A	2175	1	1312	MGRNQSRKAENSKHESTYSPPKDHSSQ AMEQSWTENGFEKLGFRKEALYYLDL TASCQSQELFQLYAGMSVVGTSMPVQA VCPYCGNRIITVTFVPGALTWLLCTTLF LFGYVLGCCFLAFCIRSLMDVKHSCPVC QRELFYHRLRQME LASSARTVVAPSRP CAGREGRGDANGKNSSPTAGSAMSSEPP PPPQPPTHQAIGVGLLDTPRSRERSPL RGNVVPSPPLTRTRTFSATVRIASQGP VYKGVCKCFCRSQRAIGFNYPAGWAG PDIF/LWHIS*LWKGGVIVPSGKGDEGHP NKMCSHPHPKE*R/IAARPVKVVHHLTL APQAPKHETWSIGHVISSLGGVVESTPLS LCFVGDFAGRRQQTLEDDILPHETGLQR GNGPSQVSPGGKGYGGAGVCGGVFPAIS TAYGPLQQPLHHLKSIKSI
1233	9284	A	2176	75	411	PIITKEHLFYVILVPSSGLDGIQG*SQKEG RGLAVPTPVSAAGLPAASMAEEAADQ VGRAALAWLCPAGRRRGFGGEVMRAL VASRPDLLTSSASSGWALGSEGRVKASA D
1234	9285	A	2177	1	361	GIKRRSGREATRALITSPNPFRFPAGQS QARAARPTWSAASSAMEAAGSPAATET GKYIASTQRPDGTWRKQRRVKEGYVPQ RRSQYMKTSM*SF SRVNQSCPQG*ALRP LLSPHPGPEGGEPLQGQPNVNLEGE REKEAAAAGKRKERAEGLSKDS*LRCPW EETAQLPSAPQGSRAAPTAASDQPDAA TTEKAKKIKNLKKLQVVEELQQRIQAG EVSQSKEQLEKLARRALEEELEDLEL GL*GLSPEATAPVTPSRA
1235	9286	A	218	151	414	ERERESVCVCMCVRV CVCLRERERQ RQRDKRLCGEMRKIQYVNKLHYI/SKYL YIYKYVILQT*TFIHIYIYLYK*ICIHTQMY

					AVY
1236	9287	A	2182	3	140
1237	9288	A	2183	365	2078
					NLVHCHCLDIFINQAFDMQRDLQITPKR LEYTRKKENELYESLMNIANRKQEEMK DMIVETLNTMKEELLDDATNMEFKDVIV PESGEPVGTREIKCCIRQIQELIISRLNQA VANKLISSVDYLRESFVGTLECLQSLEK SQDVSVHITSNYLKQILNAAHYHVEVTFH SGSSVTRMLWEQIKQIIQRITWVSPPAITL EWKRKVAQEAJESLSASKLAKSICSQFRT RLNSSHEAFAASLRQLEAGHSGRLAEKTE DLWLRVRKDHAPRLARLSLESCSFTGC LCLHRKP/KLGQELGRGQYGVVYLCDN WGGHFPCALKSVPPDEKHWNDLALF HYMRS LPKHERLVDLHGSVIDYNYGGG SSIAVLLIMERLHRDLTYGLKAGLTLETR LQIALDVVEGIRFLHSQGLVHRDIKLNK LLDKQNRKITDLGFCCKPEAMMSGIVG TPIHMAPELFTGKYDNSVDVYAFGILFW YICSGSVKLPEAFERCASKDHLWNNVRR GARPERLPVFDEECWQLMEACWDGDPL KRPLL GIVQ PMLQGI/L*NRLCKSNSEQP NRGLDDST
1238	9289	A	2184	2	468
					GPEAVPHRACSLWLPTPSGPTCPATRHS EHEFTFQMWPGCASSLLCVGTPGEARA DHRCMRVTPVHLGLPGWVGAGARPH CCESATPGGPRGCTP/DDWVAHIPPSF HK*GNPGCIRGDPRGLLWPLCPMTCVAS DKAPALLGSACCSVWSVR
1239	9290	A	2185	170	1224
					PVWRGPAGPTPGIPSTTEKHTRLPSANM MVLKVEELVTGKKNGNAGEAGEFLPED FRDGEY*AAVTLERQEDLKTLLAHPVTL GEPQLRKRETHERAELKKKLEQRSKLE NLEDLEIHIQL*EK/RKKSRET KVPVLKDP EP*IHGYTCWECPTFLKA/SLWENNLPPV EKFLSDKNNPDVCDEYKRTALHRACLE GHLAIVEKLMEAGAQIEFRDMLESTAIH WASRGGNLDVLKLLLNKGAKISARDKL LSTALHVAVRTGHL*GCAEHLIACEADL NAKDREGDTPHDAVRLNRYKMIRLLI MYGADLNIKNCAGKTPMDLVLHWQNG TKAIFDSLRENSYKTSRIATF
1240	9291	A	219	4	328
					HGVSLFFPRLECNGTISAHNLRLLS*SD SPASASQVAGITGMHHHARLIL/YFLVEM GFLHVGQAGLELPTSGDPTLPWPSPKCW DYRREPTSPGPQTYIHTQSKSSP
1241	9292	A	2190	93	458
					LLLWTMSVIFACVVRVRDGLPLSASTD FYHTQDFLEWRRRLKSLALRLAQYPGR GSAEGCDFSIHSHQKVKWHFNYVSSSQ MECSLEKIQEELKLQPPAVLTLEDTDVA NGVMNGHTPM
1242	9293	A	2191	1077	1818
					LLLWTMSVIFACVVRVRDGLPLSASTD FYHTQDFLEWRRRLKSLALRLAQYPGR GSAEGCDFSIHFS/SFGDVACMAICSCQC PAAMAFICFLAETLWWEFTASYDTTCIGL ASRPYAFLEFDSIIQKVKWHFNYVSSSQ MECSLEKIQEELKLQPPAVLTLEDTDVA NGVMNGHTPMHLEPAPNFRMEPV TALG ILSLILNIMCAALNLQP VQH VYLGQLDLG AH/HRKSFIREKGNILVF*VDMIQ
1243	9294	A	2192	1	999
1244	9295	A	2193	1544	1928
					QKVRGQIREGCLEEV ALGSSRPPAHVCL GLPTGQTADGKSYVKYQVIGKNHVAVP THFFKVLILEAAGGQRELRTYVMPNAP VDEAIPLEAFLVPIESIERASGLLFVQNIL ARAGSLKAITAGSK

1245	9296	A	2194	2	1068	ARGWVPRPKPLAVFVSGREVTLSAAPA ALCPRWIPRRGSFKSLAGRPLGRSPAM RALRAGLTLASGAGLGAVVEGWRRRRE DARAALGLLGRLPVLVAAAAELPPVPG GPRGPGELAKYGLPGLAQLKSRESYVLC YDPRTRGALWVVEQLRPERLRGDGDRR ECDFREDDSVHAYHRATNADYRSGGFD RGHLAAAAANHRWSQKAMDDTFYLSKV APQVPHSNQIAWNNLAEKYSRSLTRSYQ NVYCLH*GHFFLPRTEADGKSYVKYQV IGKNHVAVPTHFFKVLILEAAGGQIELRT YVMPNAPVDEAIPLERFLVPIESIERASG LLFVPNILARAGSLKANTAGSK
1246	9297	A	2195	204	507	GSPGTRSETREPGAMSQPPAPPPLPPPPP PPEAPQTPSSLASAAAASGGL*SGETGESF PGAARIRSVRRVYFSRPPVLSASSVPSAA SGTSSNSCWGLRR
1247	9298	A	2196	1	460	EFKQLIHIEHQPNGGASVIHAYSNELSHL SPMEMERFARKSLVGS*CSSENENSGSFP T*WGIVHGAATYLPDFLDYFSFNFPNS PVKMEILGKKDIETTTMSNFHAQSLTVL QPGRQSETPSQKKRKKFMIMLSSRWEGE TKNKYRRLTN
1248	9299	A	2197	199	769	
1249	9300	A	2198	182	2889	TEKGAAAGTAGSCSRROHASPQSYGSPA SWSFAPLSAAPSPPSSSRSSFSAGTAVPS SASASLSQPEPRKLLVPPTLLHAQPHLL LPAAAAAASANAKSRPKEKREKERRR HGLGGAREAGGASREENGEVKPLPRAN DKTRSFDDFSPDQAAAECLSRKRRILKG SCQTGYLRKALFSDTVTLGIKASTYGFW GGMIQSIQVKGLAETFNFWIHIWELNDLQ YISALFACSEEMP DYHLEKQLADKIKDKI KERDKEKEREKKKKHKVMNEIKKENGEV KILLKSGKEKPKTNIEDLQIKKVKKKKK KKHKEKRRKRPKMYSKSIQTICSGLLT DVEDQAAKGFLNDNIKD YVGNLDTK NYDSKIPENSEFPVSLKEPRVQNNLKRLL DTLEFKQLIHIEHQPNGGASVIHAYSNE LSHLSPM/EGWERFAEEFVG/L*VFSENE NSAAFYVMGIVHGAATYLPDFLDYFSFN FPNSPVKMEILGKKDIETTTMSNFHAQV KRTYSHGTYRAGPMRQISLVGAVDEEV GDYFPEFLDMLEESPFLLCTLPGWTLSSL KLQSRKDSDDGPMWVRPGEQMPVAD MPKSPFKRRTTNEIKNLQYLPRTSEPRE MLFEDRTRAHADHIGQGFERTTAAGV VLKAVHCGEWPDPQPRITKDVICFHAEDF LEVVMQMLDLHEPPLSQCVQWVDDAK LNQLRREGIRYARIQLYDNDIYFIPRNVV HQFKTVSAVCSLAWHIRLKLHSEEDTS QNTATHETGTSSDSTSSVLGPHTDNMIC AVSKASLDSVFSKLSKHYELQKHEPI ASVRIKEEPPVNNIPEKTTALNNMDGKN VKAKLDHVQFAEFKIDMDSKFENSNDK LKEELCPGNLSLVDTRQHSSAHSNQDKK DDDLIC
1250	9301	A	2199	2	122	
1251	9302	A	22	10	284	
1252	9303	A	220	436	777	IYSYGKTGPV*KRKNCQSRIKEQNPIICW LQATHLKCKETYKLMRKICQANTNQ EEIGIL*NSRLYSKNYYQG***KGSILQED MTILNMYAPKNRGSYMRQKLIELQGE
1253	9304	A	2200	1130	1437	LSRIMKAWFPLFFKIPFRDKVFFLSPPAW SAVAQSRLHCSLELVGSINSSISAS*LGW EYRCAPQCPG*FLAFFCRDGALPCCPSWS QVICLP*PPKALGLQA

1254	9305	C	2201	279	449	MHPVSCWVIMSCRPLCTRILSDSPPGPP SDICVSRKNPSNYPAMVLPQCFTICII*
1255	9306	A	2202	1	1173	
1256	9307	A	2203	1	2112	MGVELFTPASVMGVKRCCCSIPGQLSGN GEPFSEIDSSVSVRGGWQPRWFLLCGGI LSYYDSPEDAWKGCKGSIQMAVCEIQV HSVDNTRMDLIIPGEQYFYLKARSVAER QRWLVALGSAKACLTDSRTQKDKFAE NTENLKTMSSELRLCCDLLVQQVNKTK EVTTTGVSNSEEGIDVGTLLKSTCNTFLK TLEECMQIANAFTSELLYRTPPGSPQLA MLKSSKKVNQKYITNKEEFTTLQKIVLH EVEADVAQVRNSATEALLWLKRGLKFL KGFLTEVKNGEKDIQTALSFSSN/SCT/CI WRLGPGDVLTL*RKRR*LANAAL*LQ* SQPVSAFSSLSPP/CGTIFNGKEKGGCKFD IFVLMFRLISKKTQTQALRRFFEKCLH NSYSEPVGSLMHSSGIMVPFSHFVPAFI SRDTLTFEMREDNAYGKTLRQHGWVV RGVFALALRAAPSYEDFVAALTVKEGD HQKEAFSIGMQORDLSLYLPAMEKQLAIL DTLYEVHGLESEDEVLYPLGCLDCCPEGE QSWFQKKNVFGCLSQLPVGRGVQLPCG HEGPAKENRVWLCMLAITPESAEQNR DNHLWSSVVRVDGELMNDGGLTSALRT QITFGMICCVNALSSNKVVASLLTLVRF TAAPSLPTLHCVSRHLQVEDPHLVMSVC ECGTTISLPEPRSQLQCSTAVSQLEDSRR MAEH
1257	9308	A	2208	132	509	NMVQTTCPGLMSTPCTGPAQARR*K/ WLVECLSLTGMGPGEGRGQGAEEAEP N*VLGTPAGGSGPCPPGIQTPPSPHQPH SQVLSLSPTRICPGFLAYLLSLFTPREE LQLTQNDTFLAPRV
1258	9309	A	221	212	275	FLILNCNSF*KIYPKYKSLIR
1259	9310	A	2218	491	812	
1260	9311	A	2219	2	948	IFKIAFAKFGVWAGEWGREGMGRKWS ARAAAQRAEPRSGRQVRPRALRLPPARQ PRQLESPRPAAAPESPSSSAMAGWN AYIDNLMADGTCVTGAIVRYQDSEPPF WHAVPGK/TRFVNITPAEVGCPWLAKTR SSFLR*MGLTLWGGQKICSVNRGLHCLQ EWGIIACDLRYQEPGGAPHSIVTCHPR LNKDAKSWLMGQRKVSHGGLTNKKCY EMASHLSGFPSTDLRLVPFPLSPFPTAFA PLSLPIHTQTNFYFLGPLPHTPYCCQNHM GLGGQGLMGQTPSPTHIPSRVWLEKLLF FGVFFFSE
1261	9312	A	222	770	1573	NHLEIVNLCNVGISQSFPQI*LKAQATKE KINCIPIKLKTFG/TEKYIKNVKROYIE*Q KISANHLSDKRLVFRIYFLKTITVQY*KD KPIIK*VKDLNR/HFSKEDT/YMTNKYMK RC*KSSSTIREM*IKTTMR*TLPHYRWNIK KTDNNNC**GCG*TGILHCAWLECKIMY P/IFRTV*QFPEKVKQHYPDAAILLLGIY PRNMK/SKCLPKNYTRMFITELLILKK*K QLKC/PIN**WIK*NDKMW*IHMICYSA IKRHRVLINA
1262	9313	A	2221	259	941	PVSWSLNSCRFFFFF*DQSLPSVV/QAGS GQ*RNLDLSAQPLASRFK*FSSSRL/SSW DYRHMATMARLIFLVEGMFTMLARL VLNFLTSSDPPTSAPFKWLGQGVKPN RAVGFN**LGYYSIILYHSNSPGTDLVFI FIYLFYFLRQEQNSAAQARVQ*WHNL GSLQSPPPGVH*FLCLSLPSSWDYRCAPP HQANFCIF*RDGVFPCWPGWSRTPDLR

1263	9314	A	2222	343	600	MSPLSQFVDGTLKIQCYYGTFEHSVA/ RLECIGMISAHCNLCPLGSSNSPASAS*IA GHAP/CHHAPLIFVFL*RQGFTRIYFFK
1264	9315	A	2223	142	583	
1265	9316	A	2224	163	1603	IQAGQCGNQIGAKFWEVNSDEHGIDPTG TYVHGSDQLQDRISVYYNEATG/GKY VP/RAILVDLEPGTMDSVRSQPGQIFRP DNFVFGQVWGQVTTWAKIGHYTEGAE LVDSVLDVVRKEAESCDCLQGFQLTH SLG/GGTGSGMGTLTYQQGFEKEYPDRI MNTVFSVVPSPKCLDTVVEPYNATLSVH QLVENTDETYCIDNEALYDUCFRTLKLT TPTYGDLNHLVSATIE/CVVTTCLRFP/GQ LNADLRK/LAVNMVFPRLAHFFMPGFA PLATSRG/SQQYRALTVPELTPARSDAK NMMAACDPRQGPINFNRGLLSSRGSGC PMKEGRMKQML*RCKNKWSSYFCGNE SPNNVK/TAVCDIPTSWASKMAVTFUGQ *HSPSQELFKW/SEQFTAMFRRKAF/LH WYTGEGMDEMEFTEAESNMNDLRL*S IKQLPRMPTQEEEDFGEEARKRRPKGR APNQLKASQFP
1266	9317	A	2225	234	1374	KSGGLRRRQRPGRSAAVGEEELPPGMEK FKAAMLLGSVGDALGYRNVCKENSTVG MKIQEELQPVAGGLGHLVLSPEWVPSD NTIMHIATAEALTTDYWCLDDLYREMV RCYVEIVEKLPERRPDATIEGCAQLKPN NYLLAWHTPFNEKSGSGAATKAMCIG LRYWKPERLETIEVSVECGRMTHNHPT GFLGSLCTALFVSFAAQGKPLVQWGRD MLRAVPLAEKYCRKTIRHTAEYQEHWF YFEAKWQFYLEERKISKDSKNKAIFPDN YDAEERE*TYRKWSSEGRGRRGHADAP MIAYDALLAAGNSWTELCHRAMFHGGE SAATGTIAACLFGLLYGLDLVPKGLSQD LEDKEKLEDLGAALYRLSTEEK
1267	9318	A	2226	139	366	AMAYQLYRNTTLGNSLQESLDELIOGSL NTYRFCDNVWTFVLNDVEFREVTelikV DKVKIVACDGKNTGASNTTE
1268	9319	A	2227	160	588	AMAYQLFRILPLETSFQESLAD*LIQSQOI TPPTCPFKFY/LQDRANNAALA/QVRN RVNFRGSPKYGTRFCDNVGDFWYRND/ VEFQRG*PEPIKRG*K*KLVAACDGKNTG LPIPTEWNRKKYDFYTHLLFIAFEREA
1269	9320	A	2228	918	1085	QEKLF*VLCFNFFSFFFFFCFL/VD*F*FL FGKGAV*TLFVFSSASHRYRQKTR
1270	9321	A	2229	145	365	
1271	9322	A	223	86	427	SPQIRKQEISI/SLTDTGILYIENPKESPPP KLLKVIKFNKATRFKINMQKSVVFLHPR N/QFENEFKKILSFGTEPS/RSEYLGINITK EV*NLNTKNDIVEKMKELLSKWKDSPC
1272	9323	A	2230	2	750	ILGFDLQPPGRRWAAPAVSGLSRKVRRC FSTG*VVRPFAKLVGPSVQVYGIEGRYA TALYSAASKQNKLE/QLEKELLRVAQN PRRNPKVACFLFLNPLCESRSIKSEKALN DITSKKRRFSPPSTTQ/LLNQFCLAGKMG PI*ANNPKGVVSGLFLTMDGVFHSRERV PLHSGPLASSFRKESHTLLNLKTVLKEFP KVKGQVLELGAK/DPNSLGGMIVRIGE/ KYVDMSVKTKUQKLGRAMREIV
1273	9324	A	2231	100	468	ATEPLAPSERREVSIPLLVPAPLPPPPRP VPSRTRTRPWRRP*ACFPMTLAASCGPT RSPWPSQQPIQPAPVG/PNGIKTLGDAY EFAVDVRDFSPEDIIVTTSNNHIEVRAEK LAADGTVM



1274	9325	A	2232	228	721	LWQLHAAPLGAPGLPRQVIRALRGGEV HREGTSAPGRHRRRCGCPVGLQVLHSL QPCVATKTDVATGTDVAMKTGNIKTLG DAYEFAVDVRDFSPEDIIVTTSNNHIEVR A/REA/ERP DGTVMNTFAHKCQLPEDVD PTSVTSALREDGSLTIRAWRHPHTEHVQ
1275	9326	A	2233	3	605	KKLTVPVRSRVERDPRVRRGLRHPVLS SLRPPGQGPAPSVDEPQNLFLHPSGEKIP FLFLLLLFTPPRPPVLSRPRTRPWRRP* ACFPMTLAICGPTSPWSPAPV/VAG NIKTL*DAYEFVVDVRDFSPEDIIVTTSN NHIEVRPEKLAADGTVMNTFAHKCQLPE DVDPTSETSALGEDGRLTIRARGHPHTE H
1276	9327	A	2234	229	510	KGIIWYINMEEQFVI*IHFL*TRSQFYFVNI TFKYIYTHIYVQLYIHVH/MICKFIFYNIFI *IDICRQVIDYRDPKQLNNCSKFSSSLTA GV
1277	9328	A	2235	203	334	SRRDHSFIL*ILHLSIYIHTYMYNYIYMC YMYQRKQYGKTNP
1278	9329	A	2236	1023	1470	TPKTKHNSNPFVPHAHKFACSYFFFLC VFMGSKNLNLLAIYKVNNSKLYLLRNVI F*FIFTQLFILIYFFYTVLNTQTYFLFMIFL SCSHGICFPLFSLISITGWDLTNNNVRGR KYFATVDYYTLKFYIMKIYNSLYASKKK KKA
1279	9330	C	2237	226	450	
1280	9331	A	2238	3	449	LLRRVSVTAVAALSGRPLGTRLGFGGFL TRGFP/KAAAPVRHSGDHGKRLFVIRPSR FYDRRFLKLLRFYIALTGIPVAIFITLVNV FIGQAELAEIPEGYVPEHWEYYRVKELE VRKLMHVRGDGPWYYYETIDKELIDHS PKATPDN
1281	9332	A	2239	3	635	HASAHASAMSLRRVSVTAVAALSGRP LGTRLGFGGFLTRGFPKAAAPVRHSGD HGKRLFVIRPSRFYDRRFLKLLRIHLAL TGLPVTIFIALVNVFIGQAELAEFPEGYV PEHWGILLRHPISKMGFAR*FLMIGPEK DIMERNNGPSFQIGSLKKAGIYGVKGSW EVRKI*WHVEEGDGPWVLLWRPFDQGT LLDHSSRKPTPWTN
1282	9333	A	224	35	397	FLTGTQWGK/DSPFNTWC*DH/WNIHRN LDLYLIPYIKINLKQLTGPNLRAKTIKLPE QNIGENLCDL*LSRERYSTKSITIRIKL/D TLGFIKIKNKCISKDTIRKR*ATDWEKIFA NHVLKG
1283	9334	A	2240	811	1005	SNFTGKIHK*LTSFKIVNLFYIY/FFETGFH SLTRLECSGMILAHCNLRFPESRKLFFFG AIDSF
1284	9335	C	2241	256	540	MSPAKATEMLIFGKKLTAGEACAQGLV TEVFPDSTFQKEVWTRLKAFCKLSPNCL EIFKEVXRKRERXKLXAVNAEECNVLQG RWLSDECTNAV*

1285	9336	A	2242	602	2067	SSSSGLALGMQRPLLARLRGTPGRALSA PAATGFAELRAAQGMAMAYLAWRLAR RSCPSSLQVTSFPVVQLHMNRTAMRASQ KDFENSMNQVKLLKKDPGNEVKLKLY ALYKQATEGTCKMPKPGVFDLINKAKI WDAWNALGSLPQGSCEPG*NYVDLVSSL SPSIGNPPSIQVEPGTERDNQLGFETLVVT SVEDGITKIMFNRPKKKNAINTEMYHEIM RALKAASKDDSIITVLTGNGDYSSGND LTNFTDIPP/GVGVEEKANTNA/VLLR/EF VG/CFIDFPKPLDCSGSMGPGSGASPVTL LGAYSMPLVLLHLDRTGFHTPF*SP*AQS PEG/CSSYTFFPKIMSPA/KATEMPFIFGKE VNQREEACASRDLFTEGFPWIALFRKKV WDQG*RAFCCKSFPQMALEEFKEVIRK REREKLHAVKAEECQCPFGKWLSD CTNA/VVNFLSQKKNCDHLQHQHSM SQGRMCCSLCLSSTGTK
1286	9337	C	2243	2163	2402	MSQAAASHKSKLTPKNQRAFPTLLRKSQ CQDPSTRGESEEGWWPIQRACRSMETFLP QMFQSWHQIYKNVSRDQFFTLK*
1287	9338	A	2249	761	1178	LSTPLTSWCWMRRTPGSPTTRCSCSSA/ PGTQPLGGGHQ*RGCHQCVASSPR*AWP ASGPAKLQ*LQPKTQQRAPATGEHVPP VQPSAQ*PHSRFQSSSETSRPADGSEQQPA RASGPGARRPPHQPRQVINCWLRR
1288	9339	A	225	832	1043	LLWWFRLRSSPCGTQQGPWHLVCVYGY AGGWAGPPWHTCPWDPHCPGTE*CP WCVWCFCCNTYLLVPN
1289	9340	A	2250	135	408	PHSRFQSSSETSRPADGSEQQPARASGPGA RRPPHQPRFHPPPSA/RAISIECPA*AVMR SGSEPRARQEYSLGLWTPSQFLQILYLA RSPT
1290	9341	A	2251	123	578	TTNNIFKWAKYFKRHFSRDI*MANEHM KRCLTSLTIMEMQIKTTIRCHLT/PRMPII KKIHKC**GWRETGTLI/YAWWECKIVQ/P AFR/TWVQFLKRLSQHPTIPFP/GMCPRET KTHHSKTY/TQMFMAALFIEARKWKQF KCLSTNEWNTNVVRP
1291	9342	A	2255	209	531	
1292	9343	A	2256	1	308	AKRAQSYAERLRLGLAVIHGEAQCTELD MDDGRHSPPMVKNATVHPGLELPLMM AKEKPPITVVGDVGGRIAHVWLYVIHV QRWHSWLLVSRLSTLGLYF
1293	9344	A	2257	2	1161	VRKGTDLGALPVPPPAMNAARTGYRVF LANSTAVICSELAKRITERLGAELGKSV VYQETNGETRVEIKESVRGQDIFIQTIPR DVNTAVMELLIMAYALKTACARNIIGVI PYIPYISKQSKMRKRGSIKLLASMLAT AGLTHIITMDLHQKEIQGFFSFPVDNLR SLHLFLAFSIIQGRKFPNLQEMQVIVG*V FLDAGKGAQSYAERLRLGFWAVHSR GEGFSCTKLDMDDGRHSPPMVKNATV HPGLELPLMMAKEKPPITVVGDVGGRI AIIVDDIHDVSEFVAAAEILKERGAYKI YVMATHGILSAEALRLIESSVDEVVVT NTVPHEVQKLQCPKIKTVDISLILSEANR RIHNGESMAYLFRNITVDD
1294	9345	B	2258	80	402	XVPTVDTYDGRGDSVVYGLRSKSKKFR RPDIQYPDATDEITSHMESEELNGAYK AIPVAQDLNAPSDWDSRGKDSYETSQLD DQSAETHSHKQSRLYKRKAYDESH*
1295	9346	C	2259	272	409	
1296	9347	A	226	764	1016	LLQAGAHACNPSGFGEAKAGGSTDLRS GDQPGQHGETPSLLKVQKVA*RGGAFL* SQL/LRGGGGCSEPRSHD*IPAWMTEGDS V

1297	9348	A	2260	2	628	EHSIVGTRLVSGQLQPSQPNADQGKLT MRIA VICFCLLGITCAIPVKQADSGSSEE KQLYNKY PDAVATWLNPDPSQKQNL PQTLPSKSNESHDMDDMDDEDADDG PCGDSQSDSNDSDDDVDDTDDSHQSDE SHHSDESDELVTDFPTDLPATEVFTPVVP TVDTYDGRGDSVVYGLRSKSKKFRRPDI QVNPLTDTDPGSD
1298	9349	A	2261	67	1276	SHASGRRQSTASSGPDVSVSGQLQPSQPN ADQGKLT MRIA VICFCLLGITCAIPVKQ ADSGSSEEKHFYNYKYPDAVATWLNPD SHKQNL LAPQMAVSSEETNDFKQETLPS KSNESHDMDDMDDEDDDDHVDSQDSI DSNDSDDVDDTDDSHQSDESHHSDES DELVTDFPTALPATEVFTPVVPTVDTY DGRGDSVVYGLRSKSKKFRRPDIKYPD ATDEDITLHMESEELNGAYKAIPVAQDL NAPSDWDSRGKDSYETSQDDQSAET HRVHQQSRLYKRKANDESNEHSDCDW* ARTFPKVSREFHSHEFSPPWRFCFLVAP KSREEDNTPLEFRYSQELDSASSGGQLK GGKNTISPLCHLVQKKNFGIAKMKENHE MLLSPVYWLKCVSI
1299	9350	A	2262	1	651	MTAFNSGKVDIVAINDPFIDLNYMVYMF LYDSTHGKFHGTVKAENGLVINGNPIT IFQDQDPSKIKWAP/LAKVIHDNFGIIEGF MTTVHTITATQTINGPSGNCHVMAAGL SRTSSLSLLA/LAKPVGKVIPELNGKLTG MAFHVPTANVSVADLTCRLEKPA/KYDD IKKWNTHSSTFDAGAAIVLKDHSVKLISW YDNEFGYSNRVVHLMAHNASKE
1300	9351	A	2263	2	5264	
1301	9352	A	2264	56	1357	IRLSVCSSCSTVSRIFFCVASRATSLRTPM GKVKVG VNGFGRIGRLVTRAAFN SGKV DIVAINDPFIDLNYMVYMFQYDSTHGKF HGTVKAENGLVINGNPITVQERDPSKI KWGDAGAEYVVESTGVFNQPWKKA GAHLQGGAKRVIISAPCLMPPMFVVG VNHEKYDNSLKIISNAFLQPPTCLAPL AKG*FHDNFG*SWEGLIDHSSMAITGNP RKTVDGPSRGWNGRGWAAGLARSSTSL GLYWALPKAVGKGHP*G*TGKLTGMA FPVVPNCQNVSVVDLTCRSRKTLPQYD *HQGRVVKQAISEGPPQGAILGYTEAPR WVSSDCNSGPPVFPFDAGAGIALNDH FVKLISWYDNEFGYSNRVVLDLHGPHGL QGSKTPGTTEPQARGTRGRDELTAGES LPHSDPHHTESPLLTVM
1302	9353	A	2265	34	476	LSGGPRRAASCASSAGLLVLLPFMPMFI VNTKLHRASLPEGFLSKLTQQLAQAN RQAPPN*FAFNVPDQVVSFGGSSEPCA LCSLHSIGKIGGAPDPAPYSKLLACGPAG RSRLPIQARTRVYINYYDMNRGQMWA GNNFHLSP
1303	9354	A	2266	63	470	QQPPPERPAHQFARPPAPFTMQPASAKW YDRRDYVFIEFCVEDSKDVNVNFEKSKL TFSKLSFLSNDVK*SFTQLNNFDWL VFS LKLLLFVSLKRLNSFFIILYSLGGSDNF KHLNEIDLFCIDPNVSSLYA
1304	9355	A	2267	2	854	RAFCCVTSRRPASPLVCTHARSFSLAP LFLHFP LLPDRRSRFRVHFWGPRSSPP HAAVRLREARRGRDRREKAESPTGEKST SPSSRRQRGPPTKVRPPAPFTMQPASA KWYDRRDYVLKWEFVFLNLTLDVNV NFAEKSKTYNFSCLREGSDNF*GI*MEHD LFHCIDPNDFQGLKGTDRSIFMFVLRKR RIWASSWPKG LTKERGKGLIWWVSDFN VWVKDWEDSDSDMSNDFRSEMMNN MGGDIEVVDYPEVDGADDDSDSDDE

					KMPYLE
1305	9356	A	2268	117	388
1306	9357	A	2269	66	354
1307	9358	A	227	748	1488
					RLTKRPETFPRRHPKLP TLKTPVAGATPL SPSHPDWPFVFNPIPLTNRT*PPLQLQLRQ PSRSCPETTQGAISSEAE L PVRSPPPFR LFPTPE/PGLSRQWP*EVEGTSRTPFFKAE GQK/EGKVKEGKTEGPCSPSRTRILPPY SRLESGPVHWGEQGP NRKSWPPNLPDQ GF*QEREEAMGHIPSPPGIRQRHRTSVQE *GSEIKPK*CPEPGKAFNPRPWGLGLT/TR PLPLHSQKSRQDS*NTG
1308	9359	A	2270	148	398
					RPAKRGAAAMDGRVQLIKALLALPIRPAT RRWRNPIFPETFDGDDTLRLEFIVQTAS YPPWARTRSSARPISSPPETSCVLA
1309	9360	A	2271	356	1241
					KVTFLITRLTGPALQVGDPLHQEGEP PPQ LITGAFWPEMKRVFGWGGGRGLALGRET LGWPGIGGCSGEGPLCYWPPGSPAPSF RASPPLEPPRCPLRSCSLPRSACLCSRNS APGSCCRPWASLWSEPPSPSSQPAPPM YIWTLSCAPVAQS*APVTHWTDHPLPPL PSPLLPTRLPDDLHHFGPQLRQCASHRH PSHPRQDCWLL/M*IWTHLGGUWAGH SPWTVIQTAGRPRLDLSARPISSPIPE TFCAPATWLPGLSCAWQAKFESLIFSLW TKLVFAHKRSIS
1310	9361	A	2272	2	178
1311	9362	C	2273	88	228
					MKVDKDRQMXVLEEEFQNISPEELKME LPERQRLQRXTDDVCRE*
1312	9363	A	2274	3	382
					VDRTIMSDSLVCEVDPELTELKLRKFRF RKETDNAAIIMKVDKDRQM VVLEEEFQ FVVYSYKYVHDDGRVSYPLCFIFSSPVG CKPEQQMMYAGSKTRLVQTAELTKVQT GMWLQSVRERWCGSWV
1313	9364	A	2275	89	636
					KTAELRKEEACGQNNHALPGSLRQSDSL VVCEVDPELTELKLRKFRFRKETDNAAI MKVDKDPARWWCLEGKNFKNISPQREL KMGFPRRDKPRFVVYSYKYVHDGGR VSYPLCFIFPRPVGCKPEQQMMYAGS KNRLVQTAELTKGVPSRTT*LTSLRP WLAQEKLSFLSLISGAGD
1314	9365	A	2276	2	2453
1315	9366	A	2277	1	1008
1316	9367	A	2278	1	884
					MVDKCRYHQSLHKVSNSESKISSGLLL SRLQRRPRGRGDAELRRAGSVKRRQRG KMAAAVPQRAWTVELRSEQLPKDDII KFLQEHGSDSLAEHKLGNIKNVGKT ANKDHLVTAYNHLFETKPF*GYLKV*S KVSEQVKKCERLMKINPKETKSERDPW NEGPPKIYTKSCS*KRGDKTQLFPKRGD VVHACWYTGNTTKMGTVF*YLIFQ TSA KKKEKCPSL*GFKVRSRPKLSRGWDEA LLTMSKGEKARLEIEPWEWAFGKKGLPD AKIPAPNAKLTFEVELVDID

1317	9368	A	2279	3	510	AIRAVAYCADMAQSMNHTTLHQSRWH RIGIKKPRSQTDQSLTGVDPMFLKNMRF AKKHNNMGLKRMQANNAKAMSARAE AIKALVKPKEAYL*IPNGVSRKLDPLAYI AHPKLAKRALARIAKGLKCRPEALAEA RAKDQTKVQGVAPA*APAHAPKRTQAP TKASE
1318	9369	A	228	34	478	LSPRLECSGAI*AHCNLRPPGFKQFCSLSL SSSWDYRHAPPTQLIWFWYFK*RPGF QLVLVQAGLELTL*IPPASASQKCWD YQV*APH/WPALYKVS*EKWFPIMFFA PFSWLSLGTEKFVRKVAVAGLTPTG WALCSLWKY
1319	9370	A	2280	9	674	IERLQVRIACSCRDAIPGSSHASAHASEA LREPRNGADMAKSKNHTTNQSRKW PWRNGIKKPRSQRYEFS*RGWPPQVSLR NMRFAQRSTNKKGP*RLQANKLPRAM SATCPRLIKAPPLKAPRRFKPDPPKGVS RKLDRLAVIAQPPQLGSVARCP*LPRGP RLVCPKAKGQGGQAKAKDQTKGFKP RPRVQAPVSVVQAPKRTQAPTKASE
1320	9371	A	2281	417	822	RENCILLSTRAQSVFNAQGTALWSFQDP ATGEGGAGHGGRLMRPSLLPSQGASAC* /PRFGESKLAPVGKFKMCLLELPFLSHH LSRGCSGASEGQLCLEVPATARVGVHK PSQSRGLEFSWVMSDLCSPPL
1321	9372	A	2284	85	409	TCGLPMCQKQTVSWGKTPSLRRFPQR PRPPRGQPPSGARWEH/PPGTTAPRRSR RPSPPARLAGPEP*AKSPLHAANSRGQTK GHLWKTLLVLFKKPNFFFNHFN
1322	9373	A	2285	193	609	NQINFCLNGKYTYICIDTPLYMFIHTL KHINTSVIISLEFAI*HKGQVELHIKITYRS N*MWLGHNRN/LCPQEGEEIPNEA*IF SIKRQSWPGTVAHACNLITLGG*DGRIS* DQVFKTSLINIVETPSLLKK
1323	9374	A	2286	117	433	
1324	9375	A	2287	2	1923	VETPPQGSVHSGHLGSVVGDPHTGTGN AGERGPRGKGARVLALDSSGMDSSPSLP LIRTPESSLHEALDQCM TALDLFLTNQFS EALSYLKPRTKESMYHSLTYATILEMQA MMTFDPQDILLAGNMMKEAQMLCQRH RRKSSVTDSFSSLVNRPTLGQFTEEEIHA EVCYAECLLQRAALTFLQGSSHGGAVRP RALHDP SHACSCPPGPRQHLFLQDEN MVSFIKGGIKVRNSYQTYKELDSLQSS QYCKGENHPHFEGGVKLVGAFNLTL MLPTRILRLLEFVGFSGNKDYGLLQLEE GASGHSFRSVLCVMLLLCYHTLTFVLG TGNVNIEEAELLPYLNRYPKGAIFLFF AGRIEVIKGNIDAVSDGGPGRGWGSLGV SQTSRKSGTCDILDRIDWGRGGGPREN QPESRGRGPSGRAAWEDKGGGGICGA WDFDWEI*DCSIAVEGGGGRCLEAEVR KAHLFRA*RLGWSLVPLHYSSLLLFHF VTKNQSPRRGLYLSPTSCKT*EVKPGLE ARSPGSWGPT*A*HRAGPLCPGGVPVCC GVGRFGGCRGVGAGWAPVRLTRCLQ AIRFECCCEAQHWKQFHHMCYWEL MWCFTYKGQWKMSYFYADLLSKENCW SKVG

1325	9376	A	2288	1	1818	LGEGGGKGLWDLVAGLHPLGGQOSP MGQKGHKDSLPCGGTPESSLHEALDQ CMTALDFLTNQFSEALSULKPRTKESM YHSLTYATILEMQAMMTFDPQDILLAGN MMKEAQMCLCQRHRRKSSVTNSFSSLVN RPTLGQFTEEEIHAECVYAKCLLQRAA LITFLQDENMVVSFIKGGIKVRNSYQTYKE LDSLVSQSSQYCKGENHPHFEGGVKLG GAFNLTLTMLPTRLRLLEFVGFSGNKDY GLLQLEEGASGHSFRSVLCVMMLLCYHT FLTFLVLTGNVNIEEAELKLPYLNRY KGAIFLFFAGRIEVIKGNIDAAIRRFEECC EAQQHWKQFHHMCYWELMWCFYTKG QWKMSYFYADLLSKENCWSKATYIYM KAAVLSMFGKEDHKPFGDDEVELFRAV PGLKLIAGKSLPTEKFAIRKSRRYFSSN PISLPVPALEMMYIWNQYAVIGKQPKLT DGILEITKAEEMLEKGPENEYSVDDECL VKLLKGLCLKYLGRVQEAENFRSISAN EKKIKYDHYLIPNALLELALLMEQDRN EEAIKLLESAQNYKNYSMESRTHF*IQ AATLQAKSSIENSSRSMVSSVSL
1326	9377	A	2289	486	713	SKFYLFYLFYFFVYTYVINIVYIKI*QQID LNFYLFYLFYFWRQSRFLSKL*CSGA NMTHLSLNLPGSRNTPAPALQAAGTTG M*HHTWLFVVFVETEFHHVGLKFLSLD IHPPWPSKVLG*QGGWIV
1327	9378	A	229	28	359	KGKIPWLCGI*PQNEKLM*HSKSLATVFC IYR/TN*KNKRIISNAEKAIHQHTFMNF LKNF/MKTVRKLMGDSILNIIKEICRPV TNM*DGELLDDFPKIGDEAQRPP
1328	9379	A	2291	1	774	
1329	9380	C	2292	214	483	
1330	9381	A	2293	701	1033	
1331	9382	A	2294	440	1383	SSSWNRAFSRKKDKTWMHTPEALSKHFI PYNALFLGSTVEQPKGTEVVRDAVRK LKFAHRIKSGGQKIPKVELQISIYGSK NS*DPKTKREVQHNCQLHRISFCADDKT DKRNFTFICKDSES NKHLCYVFDSEKCA EEITLTIGQAFDLAYRKFLSEGGKDVETR KQIAGLQKRIQDLETENMELKNKVQDLE NQLRITQVSAPPAGSMTPKSPSTDIFDMI PFSPISHQSSMPTRNGTQPPVPVSRSTEIK RDLFGAEPDFPFNCGAADFPDIQSKLDE M/QAPEMEGFKMGLTLEGTVFCLDPLDS RC
1332	9383	A	2295	412	842	GKVSPPGL*GP*GEQGPLGPSGAATGLP HSLCPEAFASPRSVVEYR*DQAQLALWAV PL*EGPL/PDLVRGVVPGSPVKVPGDEV T/CHSCGRFPRALGQSKTLPPNPLTTRR GVNSEDLPSPVYRAADRGNRFPAGVGG SCHR
1333	9384	A	2296	1036	1429	GRAWRTPCRAHQPRRSHLRPSSCSTLQ RG*SPPPGRSSSPVQP*CA*ARGWGSQPG *HWTCLFLAWQSPQCTGPIQCYPRPLR SPRPAGPPGTS GHSPPDARAPRRPAP CGRECSSSSGRNAAPLG
1334	9385	A	2297	44	396	
1335	9386	A	2298	298	409	

1336	9387	A	2299	123	1221	KRQLFPLSWAMAASGSRMAQKTWEALA NNMQEAQSIDEIYKYDKKQQQEILGGEA LD*GVRSHHYFKYCKISALALLKMMVM HARS/GEGLNLEVMGLMLGK/VWDGETM IIMGKFFFCLEGTETRVN/SLQAAAYEY MAAYIENANQV/GSPENAIGWYHSHPGI YGCWLSGNDVSTQML/NQQFQEPFVAV VIDPTRTISAGKVNFGAFWAHPK/GGYN PPDÆGP/SGVPGLFPLNKIEDLGVHCKQY YALEVSYFKSLLGSQNCLELLWNKIWG GIRWSS/SLAGLLNADYPTGQVL*FVLKK LEQSRSPSLGRGEFPCWGLETHDARKSED KLAKATRSS/CKLPIEAIHGLMSQVIKD KLFNQINIS
1337	9388	A	23	3	438	LFISLLSISEKIIENCWV*LSAARS*ALRKL AFF*ATRSFF*ARDILGRFHLLFF/CNFFLG LLFIDWILSYSSMSFLIHLHPAGQQQAS TICCSIICQANLHTIFWQFVCIRCADYHIP LYTGISNLTNDISVCHTNYHPVIGVW
1338	9389	A	230	1216	2017	HPRGAKYPETNPGFVTL SYVGPPDSRQL THSRPSRSENACGHRPGELNWLNCSCGL LVPRGKRVWTETCNLVWKEASGPPPG DPLPSLSPITHQTQARPT/DTQAHCPAPCP PH*PLALNPQQNFCPEESAAQVGQGEED RTSRGWVHGSQPQVGAGK*PLSTGSKA QGARTGGGVPSPLRL*EQALVRCRCRL CRLGSCVRSLSLKFIDEAGEAPSAAGLD GGGTGRAPGAPEARCPRPAESGEGPGSG QAPAEQDPQPRALRA
1339	9390	A	2300	2	433	
1340	9391	A	2301	1	2423	MAGALAGLAAGLQVPRVAPSPDSDDT DSEDPSLRRSAGLLRSQVIHSGHFMVSS PHSDSLPRRRDQEGSVGPSDFGPRSIDPT LTRLFECLSLAYSGKLVSPKWKNFKGLK LLCRDKIRLNNAIWRAWYIYVKRRKSP VCGFVTP/LQGPEADAHKPEAVVLEGN YWKRRIEVVMREYHKWRIYYKRVVSGG GPGRPQSFPAAAGYRPPRKIPGKILTP ELAPLGPSIQSRADSATVWPORLLAASLP RGRLRKPSREDDLLAPKQAEGRWPPEEQ WCKQLFSSVVPVLLGDPEEPPGGRQLLD LNCFLSDISDTLFTMTQSGPSPLQLPPED AYVGNADMIQPDLTPLQPSLDDFMDISD FFTNSRLPQPPMPSNFPEPPSFSPVVDLSF SSGTLGPEVPPASSAMTHLSGHSRLQAR NSCPGLDSSAFLSSDFLLPEDPKRLPPP PVPPPLLHYPPPAKQETVPEFPCTFLPPTP APTPPRPPPGPATLAPSRPLLVPKAERLSP PAPSGSERRLSGDLSSMPGPGTLSVRVSP PQPILSRGRPDSNKALLGSFLGSPNSLLPE TENRRITHISAEQKRRFNILGFDLHGL VSTLSAQPSLVSKATTLOKTAEYILMLA QGERAGLQEEAQQLRDEIEELNAAINL CQQQLPATGVPIHQRFDMQMRDMFDAD YVRTRLHNWKFVWVSSLKPMAGGLQ GLWQGSSLTWAQFSILIRPLFESFNGMVS TASVHTLRQTSALWLDQYCSLPALRPTV LNSLRQLGTSVTSILVTDPGRI*/EQATRA VTEGTLGKPL
1341	9392	A	2302	1	535	
1342	9393	A	2303	155	276	
1343	9394	A	2304	1	477	

1344	9395	A	2305	221	2323	LGLQMHTTSGRIHQAMVTSLNEDNESVT VEWIENGDTKGKEIDLESIFSINPDIVP DGEIEPSPETPPPPASSAKVNKIVKNRRT VAASIKNDPPSRDNRVVGASARARPSQFP EQSSSAQQNGSVSDISPVQAAKKEFGPP SRRRSNCVKEVDKLQDKREMKRLQQQE LREIRAQDV DATHPNYEIMCMIRGFTGS LDYRPLASADPIDEHRIYVCVRKRPLNK KETQMKDLDVITIPSKDVVMVHEPKQK VDLTRYLENQTFRFDYAFDDSDAPNEMV YRFTARPLVV TIFERGMATCLAYGGTGS GKTHTMGGDFSGKNQDCSKGIYALAAR DVFLMLKKPNYKKLEQVYATFFEIYSG KVFDLLNRKTKLRVLEDGKQQVQVVGL QEREVKCVEDVLKLDIGNSCRTSGQTS ANAHSSRSHAVFQIILRRKGKLGKFSLI DLAGNERGADTSSADRQTRLEGAENKS LLALKECIRALGRNKPHTPFRASKLTQV LRDSFIGENSRTCUMIATISPG/MWASCEN TLNTRYANRVKELTVDPTAAGDVRPIM HHPPNQIDDLTQWGVGSSPQRDDLKL LCEQNEEEVSPQLFTFHEAVSQMVEMEE QVVEDHRAVFQESIRWLEDEKALLGD*L EEVDYDVDSYATQLEAILEQKIDILTEL DKVKSFRAALQEEEQASKQINPKRPRA L
1345	9396	A	2306	264	451	VLPNLTVHASPTTIKIWAGKVTHAYNPS TLGGQRGRIA*AQEFKTSLSNIMGLRLSK KKKKK
1346	9397	B	2307	1	642	MLEEQLVRMLTREVMDLITVCCVSKKG ADHSSAPPADGDDEEMMATEVTPSAMA ELTDLGKCLMKHEVLSGTLADAVTWL FTSVLKGQLMHGQHDGCMASLVHLAFQ IYEALRPRYLEIRAVMEQIPEIQKDSLQF DCKLLNPSLQKVADKRRKDQFKRLIAGC IGKPLGEQFRKEVHIKNLPSLFKKTTPML ETEVLDNDGGGLATIFEP*
1347	9398	A	2308	3	101	STHASESNFICSILCFCLEAPISLMLSLSA SLEDQPWAWALCGGGRAPSTT*PPLSL* HL
1348	9399	A	2309	360	483	SMCLTVSMLVTACPADPCVT*A*NRSSF EVPPPWTSDLRFF
1349	9400	A	231	5	399	DGVSLV/SPRLEYSGAISAHCKLRLPRFK *FSCLSISSWDYRHHVPPPPANSVFLVKT GFHHVGGAGLELLTSGDLPTSAPFKCW DYRCDHCAWAKD*KFKCVSVGRRGGP GEAVHQNSNRLSYWWEDGGKTG
1350	9401	A	2310	100	190	
1351	9402	A	2311	2	193	WRRRRRRFCPPQPSLIWSGMRSPKKLTP PR*NYLRQALRRNLSTLRRPFAQETAWY QWCFLGL
1352	9403	A	2312	103	237	
1353	9404	A	2313	3	1361	VETQEGKTTIEGRITATPKESPNNPNPSG QCPICRWNLKHKYNYDDVLLLSQFIRPH GGMLPRKITGLCQEEHRKIEECVKMAHR AELQRELQRLSPLPATQVYYQITGLGFLK ELFRRANPNSTGPLAKAQGGYLTRWAP GSVKPIYKKGPRWNRGEANRKAHFSTV QWPAPSAIAHAKDDVSPLQPTQCLLDNI KKKVVPVLSGRPGNTDSTCQESRSIYLS QALAVTFTHTLTATAEQAEPSSQLSPPPG LGEKPPADLVQW/SEAPRAKQHYCTSP SHPAQRVVSSSDSIEHPAAASHPRRPPRP GTNGWSRRGSCRASWSRDCSGVRSRRV ALGMAMDQVNALCEQLVKAVTVMMDP NSTORYRLEALKFCEEFEKCPICVPCGL RLAEKTQVAIVRHFGQLILEHVVKFRWN GMSRLEKVYFEEQWSWNLIAKGPFEHF GRGEPY



1354	9405	A	2314	138	397	SHCPLSMHVGGTRPSWWGGTGV* LWPRACRVGLLLPSTGAGGTLEALLSVSDTAS KVFELELARHCPSEGVNPTGHAHPVPSRG PFL
1355	9406	A	2315	16	546	QLNGRSIRHEVMSHRKFSAPRHGSLGFL PRKRSSRHGRKVKVSFPKDDPSKPVHLTA FLGYKAGMTHIVREVDRPGSKVNKKEV VEAVTIVETPPMVVVGVIGYVETPRGLR TFKTVFAEHISDE/CRLPLRQKKAHLME IHYVNGTVAEKLDWARERLEQQVPVNP VFGQDEMIDVI
1356	9407	A	2316	2	451	PRAKAQKGSPLVLAQKSCPPKTTRALA KVAACIGAWHPARVAFSVARVGGQGYH PRTEITVKKIYKIGQGYLIK/DGKLIKNNNA STDYDLSDKSINPLSLLVQTKRRALEKID LKFIDTTSKFGHGRFQTMEEKKAFMGPL KKDRIAKEEGA
1357	9408	A	2317	1	625	CKFIRVMAHTRLRLPLRRKKAHLMEIQ VNEGTVAEKLDWARERLEQQVPVNPVQV GQDEMIDVIGVTKGKGYKGVTSRWHITK KLPRKTHRGLRKVAC/KDGKLIKNNAST DYDLSDKSINPLGGFVHYGEVNTDFVML KGCVVGTKKRVLTLRKSLLVQTKRRAL EKIDLKFIDTTSKFGHGRFQTMEEKKAF MGPLKKDRIAKEEGA
1358	9409	A	2318	1	1251	
1359	9410	A	2319	1	903	
1360	9411	A	232	481	525	AAGTYSL*IGKE*VKLSLSVDSMILYIDN LKTLPKRTLTTDKFSKISEYNISVF*CIND EKAKEKIRKTIPFTIIR*NTSDLTKKVKG LYKGNKYKTLMEINKWKDIPCA*IRRINI IKIVYPK**FKAISIKILLSFVTEIEKKIPK FI*NQKRIRIAKATLSCWNLFPNMNSWHN RC
1361	9412	A	2320	1	1341	
1362	9413	A	2321	1	1131	
1363	9414	A	2322	10	1304	ESDGVTSRHRKFSAPRHGTLGFLPRKRSSR HRGKAASFPTDDPPKPGHLTGFLAYTAG MTHIVREVDRPGSKANTKEAGEAATIVE TPPMVSVGVIGYVETPRGLRTFKTVFAE HISDECKRRFYKNWHKSKKKAFTKYCK K/WQDEDGKKQLEKDFSSMK/KYCQV/ RVIAHTQWRLPLRQKKAHLMEIQV/ NGGPCGPRSWDWAREKLE/QQVPVNPV F/GQDEMIDVIGGDPGAKGYKRGSPVR WHTKKAAPARPHPRACAKVGLVLGAW/ HPGRVAFSVASRWGRKGLPFHRTEINQ GRIFKDWPRATLIKDGKLIKQCLHLNY DLS*PRASNPLGGFVHYW*SDRNDFVM L/KG/CVVGTKKRGAHPFRKSLLVQTKR RALEKIDLKFIDTTSKFGHGRFQTMEEK KAFMGPLKKDRIAKEEGA
1364	9415	A	2323	138	737	TTTMSKKAKTKTTKKRPQRATSNVFA MFVHSHQIQGVQRGPFNMIDQWRDGFHS DK/EKVLHDMLAFSREESPLDAYLDAM MNEAPGPHQVSPWFLTMFW*ESLNRTD PLKIVIQKPPFA/CFD*KKATRHPFREDYL /REELLNPNWGDVYQIEEVG*TCTGEAP I*QKKGNFQITSEFHHGILTRPPKHKDD LKELLA
1365	9416	A	2324	2	307	
1366	9417	A	2325	2	215	
1367	9418	A	2326	1	213	

1368	9419	A	2327	2	935	FRPRYEGRGRGCCGRVRLRRGLHVDC GKLGKLTSSCGKPSNRMSLQWTA TFLYAEVFFVLLLCIPFISPKRWQKIFKSR LVGVVSVPMGNTFF/VLVILVLLVIE CRAAKFREVMVDVGRVNLPGTIPGG HGEALSHMEAFSVAPGGNLLHWLGFSL LLSFLRLRLVTLISQQAATLLASNEAFK KQAEKC*VKAARKYMEENDQLKKGAP FDEGKLNFEAELKLEEKINRELKIANLQ KLKDELGQALSCKLEK*KTSFWPMRK QFMRGLTQ/ERYDRLLLEQPKAAGLQV DGPMDKKEE
1369	9420	A	2328	2	1217	QARGASLRPSLLRIPSEYAFTMQLRFR LLLAALLLVIVWTLFGPSGLGEELLTSL AFLLPAPALPGPPLALPRLLIPTQEACCGP GAPPFLILGGTAPENLNQRNAIRASRG LREARGLRVQTLFLLGEPNAQHPVWGS QGE*TPSESAQGDILQAQFQDSYRNL TLKTLGSLNWAELHCPMARYVLRDDED GIANVPELVSELVLRGGRWGQWERSTEP QREAEQEGGQVLHSEEVPLLYLGRVHW RVNPSRTPGGRHRVSEEQWPHTWGPFPP YASGTGYVLSASAVQLILKVASRAPLLP LEDVFGVSARRGGLAPTQCVKLA\GA\I THYPLDRCCYGKFLTSHKLDPWKMQE AWKLVGGS\DEKDCAPFAPWFGKSL GILRCR\A\A\WLQS
1370	9421	A	2329	1	395	AINYNEKIYELRVMETKPDKAVSHIED MNVDFDAP/LGYKEPERQVQHEESTEGE ADHSGYAGE/LGFRAFSGSGNRDLGKKK GVEPSPSPIKPGDIKRGIPNYEFKLGVEAG GRFVAFSGEGQSLRKKGRKP
1371	9422	A	233	20	129	
1372	9423	A	2330	1	1494	
1373	9424	A	2331	2	1062	GRAVGGVSSLHCPERSGVCQVVSIMFSF NMFDHPIPRVFQNRFTQYRCFSLSML AGPNDR/SSIGEKEGKIIMPPASALDQLSR L*HYRIPMLFKLTNRNSDRMTALLQCLE FVADEGICYFPTL/WMMQNLLLEEGGLV VQKSVNLSSATLLPNFQPS\DFLADITN PKAVFENALRNFACLTTGDVIAINNYE KILRNCVVMETQTPTRPVSHH*SVNH*T V\DFDCFLPLPKNPGKTKSHHEESEQKV KADPTVAYAWKSLGFPRFSRSGSNRLD GKKKGVEPSPSPIKPGDIKRGIPNYEFK LGKITF/VSRSRPLVKKVEEDEAGGRF VAFSGEGQSLRKKGRKP
1374	9425	A	2332	1	214	APARSALCSGAPRTSGQPWGTAPAPPS FHQRNTPCPWSAPPSGAAPWGSTKGQR LDGPCCAPFPFRGLSM*SKVPWWPA*TA PAPPSFHQRNTPCPWSAPPSGAAPWGST KGQRLDGPCCAPFPFRGLSM
1375	9426	A	2333	1	1515	MAPLQQHIAVLPTTADQVTTEDDGYT WTALQHVATAKEKRKSSQTMEESQDFP LHIPRAQGTQRAVARPSGPKAWTEAG PAKDAARSEKPGGRKAPGGRGQLTCRR SLSPVRQPPVSVVSDSLRRRSPCPADW REAGATSLDRIPILVLMVDKKLVVVF STGAQGGSVARILLEDGTFKVRVVTNRP RKKADELRLQGAEVVQGDQDDQVIME LALEWAYATFIGTNYWESCSQEQEVTP A/GSLDRIPILVLMVDKKLGLHYVVYS GL\GTSRS*RQGDWPPRTLTAKGRWRNI SGTLAFP*PVWGFLANLENLLQLFFPR KTPEGKELLGACQVTFPWPACPLT WGPVVL\SLFEDARKIRREHGR*LAGT RPRSTLPCSPSTPARSCTMPR*LPEDYEK LGFGGARDLGQHVFLCPETPTRDI/PSLT LRLNPKALTLDQWLGTARGLQPAVTL

						PASRPLVGIRGHQRGKKAPTSEIKPICSPK KKKK
1376	9427	A	2334	3	1037	ILRSVARAQRGRRSLRFHWSPGGHGGRS EAGAAGP/VEMRRTAAPQGRVPGL/PS KLGIPDALPTVAAPRPVCQRCGQPLAAL VVQVYCPLEGSPFHRLHLHVACACPGCS TGGARSWKVFRSQCLQVPEREAQDAQK QGNSLAAEDWCEGADD/CGK*Y*GGAFT TVYLGFE*CCQC/HKT*TGLLGSKTS/C LQDAVLGAHPVPPGLPLFLPYVICVAD EDDYRDFVNLDHAHSLRDYQQREGIA MDQLLSQSLPNDGDEK/S*EDHN*KVGG SRPF*QIP*KRNWLLVREQLRVFPGVES HSF*PAPTSEVTELSLPVWEAKRIFEF QLMPALGQHASRVLI
1377	9428	B	2337	240	387	NGKERGTGDVKLLKHKEKGAIKLLMR DKTLKICANHYITPMELKPNAX*
1378	9429	A	2338	1	152	
1379	9430	A	2339	1	830	MRRPRRRLCWLRLVECGPLQSRSAVG NSEEQRKAYVFFSSLVLDTHEDHDTST ENTDESNHDPQFEPVSLPEQENKLEED EEELFKMRAKLFRFAENDLPWEWKERG TGDVVKLLKHKEKGAIKLLMRDKDP *KICANPLPSRPLMGAESPTAGRSPVW VLETPHADFRPNECPPSPPLPGPPRFLN A*RMPOKFQONQSFEELQGRSEGEKEE SRFQGNDSL/HRKKCAEKPSSLR*REE TKEDAEAEAINRLILLSFSSLSLS
1380	9431	A	234	16	370	
1381	9432	C	2340	392	631	MRTAESCRRLSWAALLGSHWRCCSHPC AAGQGPYPRAAVNGPRTPLAYLRKEM FSSGLINVEFPQFLYLSHFHSLLR*
1382	9433	A	2341	3	121	
1383	9434	A	2342	1	2970	
1384	9435	A	2343	48	1493	DGQYRIWWLIEWHVDGGCGDTETWKD RWNHVKKVFLERSGPFTHPDFEPSTESL QFLDTCVKVLVIGAGGLGCELLKNLAL SGFRQIHVIDMDTNDVSNS*IRQFLFRPK DIGRPKAEVAAEFLNDRVPNCNVVPHF NKUQDFNDTFYRQFHINVCGTGLSCA RRWINGMLISLALNYERMVS*DPSSIVPLI DGGTEGFKENARVILPGMTACIECTLE LYPPQVNFPMCTIASMPRLPEHCNEYVG MLQWPKEQPFGEVPLDGGDPHEHIQWI FOKSLERASQYNIRGVYRLTQGVVKRII PAVASTNAVIAAVCAT*/EVFKIATSAYIP L*IITWVFNVDGLYTYTFEGRKGVEN CPACISQLPQNISVFLHQAKLQEVLGILT NSASLQNEILPAITATLGGEKIGTLYLQS VTSIEERTPNLSKTIGRIGLLDGPKTG RLLDVTTPTQTVLFQTSILLKKGKSP
1385	9436	C	2344	166	312	

1386	9437	B	2345	355	487	MLGLRSGIPAPVRLQLAVVLGNSLGNFG TEGPGLKGRMTMTGDPX*
1387	9438	A	2346	754	1035	GKVRTVKIKYWMLARSSGSSL*SQHFGR LRQADHEVQEIKHHPGKHSANP\$LLKI QKVS*LVSQAWWWVPVPAIREVEAGE WCEPGRQSLQ
1388	9439	B	2347	80	432	MANGPRAXFCENFQAALALSRVGLHKN PEKEPYKSKYSARALLEEVKALLGPAP DEDERPEAEDGPGAGDHALGLPVAQRA VRLAVIEFHLGVNHIDTEELSAGEEHLVK CLRLRS*
1389	9440	A	2348	2	1060	HWLSTANVISDYDDKSSPTQDTAETV*D TPELYHQGKGEIARCWKYCLTLMQNA QLSMQDNI*ELDLKQSELIALRKKELDE EESIRKKA VQFGTGELCDAISAJEEKVSY LRPLDFEEARELFLGQHYVFEAKEFFQI DGYVTDHIEVVQDHSALFKVLAFFETDM ERRCKMHKRRIAMLEPLTVDLNPQYYL LVNRQIQFEIAHAYYDMMDLKVAIADRL RDPDSHIVKKINNLNKSALKYYQLFLDS LRDPNKVPFEHIGEDVLRPAMLAKFRVA RLYGKIITADPKKELENLATSLEHYKFIV DYCEKHPEAAQ\$EIEVELELSKEMVSLFP TKMERFRTKMALS
1390	9441	A	2349	11	2571	VKCRKAEGRRRESRLQTFEESQAVEAAM ANVPWAEVCEKFQAALALSRVELHKNP EKEPYKSKYSARANMEEVKALLGPAP\$ DEDERPEAEDGPGAGDHALGLPAEVVE PEGPVAQANRLRLAVIEFHLGVNHIDTE ELSAGEEHLVKCLRLRRYRLSHDCISLC IQAQNNLGIVWSEREEIETAQAYLESSEA LYNQYMKEVGSPPLDPTERFLPEEKL VEQERSTRFSKVYTHILYYLAQVYQHLE CFETAHYCHSTLKRQLEHNAYHPIEW AINAATLSQFYINKLCFMEARHCLSAAN VIFGQTGKISATEDTPESEGEVPELYHOR KGEIARCWKYLF*LLMQNAQLSMQDNI GELDLKQSELRALRKKELDEEESIRKK AVQFGTGELCDAISAVEEKVSYLRPLG FEEARELFLGQHYVFEAKEFFQIDGY VTDHIEVVQDHSALFKVLAFFETDMER RCMKHKGRLAMLEPLTVDLNPQYYL VNRQIQFEIAHAYYDMMDLKVAIADRL RDPDSHIVKKINNLNKSALKYYQLFLDS LRDPNKVPFEHIGEDVLRPAMLAKFRV VARLYGKIITADPKERAGKIWATSLAEH YKFIVDYC/EKRHPEAAQ\$EIEVELELSKE MPGRRSETPSLKERNKKDKIQTAKTTSA PPAQLALATPQPVRMCRQLTRVISLGSS KGKASFAGPDRPPYEDPHIVRLQLYHPQ RERSCVTSSRRSCAKSPWTLSSRWPHGS SWEKSYELSDGQVITSSNKRFFHCPEALF QPSFLGMESCGIYKTTFKSIVKCDVDIHK DLYANTVLSGSTTMYPGIALQDAEGDHC PGSQHEEDQDHCSF
1391	9442	A	235	1	1125	
1392	9443	A	2350	1	421	GTVVMGLPKYFISLSTKFPLSFSLSADEL HIASLFWPRSKPFGVIQRSCASQLNALP EVLKNPGDPDKMLRFAESPRNLPAGVL/ GDIWTDGKGSVSLQEYVYHFPLIRPTPGS *ARASFLSCG*EEFRRHGLTFSSTRE

1393	9444	B	2351	211	1632	MSTELFSSTREEGSSGSGPSFRSNQRKML NLLLERDTSFTVCPDVPRTPVKGKFLGDS ANLSILSGGTPKCCLDLSNLSSGEITATQ LTTSADLDETHGLDSSGLQEVHLAGMN HDQHLMKCSPAQLLCSTPNGLDRGHRK RDAMCSSANKENDNGNLVDSEMKYLG SPITTVPKLDKNPNLGEDQAEISDELME FSLKDQEAQVSRGLYRSPSPENLNRP RLKQVEKFKDNTIPDKVKKKYFSGQGK LRKGLCLKKTVSLCDITITQMLEEDSNQ GHLIGDFSKVCALPTVSGKHQDLKYVNP ETVAALLSGKFQGLIEKFYVIDCRYPY LGHHIQGALNLYSQEELFNFLKKPIVPL DTQKRHIVFHCFSSSERGPRMCRCLREE DRSLNQYPALYPPELYILKGGYRDFPPE YMELCEPQSYCPMHQDHKTELLRCRS QSKVQEGERQLEQIALLVKDMSP*
1394	9445	A	2352	200	1525	IMASAHLATSAFCTRSSSSGRSGCKRGS WDSEQALIRAWTTLPSLHAADGSFAGG RGIPSKRWSWRAGQQSSLCLIMQTSNC GNSFQLVSEGASWRGLPHCSCAELQDSL NFSYHPSGLSLSVRPSSPGNSPKQPPSQ VLRPEPPDPEKLPVPPAPPSKRHCRLSV PVDLSRWQPVWRPAPSKLWPIKHRGS GGGGGPQVPHQSPPKRVSSLRFLTSSQC LFSMCPSSQTLQPSFLQPGGPASSSRPCA ASPQSGSWESDAESLSPCPPQRRFSLSPS LGPQASRFLPSARSSPASSPELPLAT*G/L SATFPESRSQPCDLARKTGKRRHEED PRRLRPSLDFDKMNQKPYSGGLCLQETA REGSSISPPWFMACSPPLSASCPTGGSS QVLSESEKEEGAVRWGRQALSRTLC QRDFGDLNLNIEEN
1395	9446	A	2353	2	280	
1396	9447	A	2354	2	971	
1397	9448	A	2355	604	876	SLHHKDFTGMLLLQFAHHLGEIGFSLIS PKSRQPRFLPSVRQCGAAAA/RRCYRL APRPVCSGKRRTAPGAGD*GGERARPPR ARVFCPR
1398	9449	A	2356	1	1042	DLFRRHFKSSSIQRSAAAAAATRTARQH PPADSSVTMEDMNEYSNIEEFAEGSKIN ASKNQDDGKMFIGLSWDTSKKDLTE YLSRFGEVVDCTIKTDPVTGRSRGFGFV LFKDAASVDKVLKEHKLDGKLDIPKR AKALKGKEPPKKVFGGLSPDTSEEQIK EYFGAFGERENIEFSMDTKTNERRGFCFI TYTDEEPVKKLESTYHQIGSGKCEIKV AQPKEVYRQQQQQKGGRGAAAGGRG GTRGRGRGQGNWNQGFNNYYDQGY GNYNSAYGGDQNYSGYGYDYTGYN YGNPMEYGRGYGQTYQWPQSTLMG KIASRGGGQSTQNNYPAHT
1399	9450	A	2357	586	1970	PQEFTPLRFSLLILLFSQARVPSRVASLLA GRAAMEVPPRLSHVPPPLFPSAPATLASR SLSHWRPRPPRQLAAPLLPSLAPSSARQG ARRAQRHVTAQQPSRLAGGAAIKGRRR RRPDLFRRHFKSSSIQRSAAAAAATRTA RQHPPADSSVTMEDMNEYSNIEEFAEGS KINASKNQDDGKMFIGLSWDTSKKDL LTEYLSRFGEVVDCTIKTDPVTGRSRGF GFVLFKDAASVDKVLGT*KGHKLDGKL IDPKRAKALKGKEPSPKRFLWSGLSPDTS VEEQIKEYFGAFGEIENIELPMDTKTNER RGFCFITYTDEEPVKKLESRYHQIGSGV KCEIKGCTTPKRYLGQQQQPPKGCK/RG AAAGGRVGRGRGRSQQGNWTQGFNN YYDQGYGNYNSAYGGDQNYSGYGGYD YTGYNYGNYGYGQGYADYSQQQSTYG KASRGGGNHQNYPY

1400	9451	A	2358	592	608	WLRWATYKAGQPQLEAQNPFYFREGQ PFLRLDHLRTAGAEQNCAAHVWRRL* RNMGFVLLTGAVSFIMVAHLHQCSQG PAKKVPKWEYPYPCATEPLNNGHHPST CIQAKPHPRNTVGKV*PSPSLFFPSLLGG VYHPAV*ASWPWAWPWICWTEFLYAY GLLHGENPSKRSPRSPWGSTALLAFGWG TTVCSGFPSILVWVKISGLGQVEPKACH LKKL
1401	9452	A	2359	857	1343	SFRISFSGIITFKIVSFGIMAQTHAMGQFF ERNVSP*LTQGEIENLNRPIPVKL/ESITNN LL**KAPGLDGFTDD*SNIEINL*PRNISL KFFFLRKKSYQFSTIASKKIEAKGTHPN* L*ETSITLILKSDKDMTRKGLQSLNIDA KILNKILANQMQ
1402	9453	A	236	426	2173	MRAQTHNRAVDIALGTAGAHLEDPGAQ QGQDRCSWQVCRSARRRRRREAAGGRR AARRAQHPCCREPSGNQSLSAHLHTGAT KGPASSLLHEHLWKPIARSARLPGNSSPL FSAPCSMGAGPSLLAALLLLSGDGAV RCDTPANCTYLDLLGTWVFQVGSSGSQ RDVNCVSMGPQEKVVVYLQKLDYAY DDLGNFGHFTIYNQGFIVLNDYK\WF AFFKYKEEGSKVTTYCNETMTGWVHD VLGRN\WVFTGKKVGTASENVYVNTA HLKNSQEKYSNRLYKYDHNFKAINAIQ KSWTATTYMEYETLTLDGMIRSGGHS RKIPRPKPAPLTAEIQQKILHLPTSWDWR NVHGINFVSPVRNQASGSCYSFASMG MLEARIRILTNNSTPILSPQEVVSCSQY AQGCEGGFPYLIAGKYAQDFGLVEEACF PYTGTDSPCKMKEDCFRYYSSEYHYVG GFYGGCNEALMKLELVHHGPMVAFAFEV YDDFLHYKKGIYHHTGLRDPFNPFLT HAVLLVGYGTDASGMDYWIVKNSWG TGWGENGYFRIRRGTDCAIESIAVAATP IPKL
1403	9454	A	2360	84	326	DKAYQCSDDCK/ELHSVTLVSR*SVLSM HQSIHWKKKCLICFLK/CHKAFSQ*SAII KQRIHVAQII*ICCIWESLQPEVVL
1404	9455	A	2361	635	1170	RLFKCILGLLTFPPDSSHPQLPGESPGSFE KSRCPCGWPHPAQPHQSRWAIGPACSSY SGVLQG*EPQI*SLQHGRGGGGRTGGLE KETRTGSRISDTALGG/EAGPCPCGQLPH LPGPPAAHDAGPYIP/PKGPGGSGYLHP HGSAKLGSNQGAMKQAGRTGSAGSQG SAEFHKAALWT
1405	9456	A	2365	2	333	EPVCATWKNRTPEPTRQCRPAEKQRASA TQHQEGRQPGWKPRRSSDPPHRPRGFSS THDVSD*PKVTNCREAKGEEAGSGLPTGT GIGGSKPSNRLRSTHTTTPGTVFNT
1406	9457	A	2366	208	491	KQSQVWCVLWSEGLLGLDPPNPASCG GDRLS/RTSAVPPVP*S*NSSAHGPGGRP GKPQGWG*TVTSGRSVAGKPGVPSNRR CFLPPHPWLLDN
1407	9458	A	2367	2	1010	PQPAQPCPGKELRTVNGSQMLLVLLVL SWLPHWGALSLAEASRAISFPGPSELQ LRRTSKIPKSLRKRIYEDLLNPGCGPNQS WEDSNTDLVPAPAVRILTPAEVRLGSGG HLHLRISRAALPEGLPEASRLHRLFRLS PTASRSWDVTRPLRRQLSLARPHGAPALH LRLSPPPSSQSDQLLAESSARPQLELHL RPQAARGRRRARAISNGDHCPLGPGGCC RLHTVRASLEDLGWADWVLSPREVQ VT/LCAIGACPSQFGRQKMHQESKTN PAPALKAPNTVPKRPCLVPRQLQIPWVL HSKRPTDGVCFQDL/SD*LVKPKTCHLH Y

1408	9459	A	2368	68	430	HVLT AHPPHRLGPGPQGRSGMGREL V GPTVCLSSLPRLAASFRRPP/VGLGPQQV QVVNGGCWPCRGYGEQTQAPQPPS*VG DPGEPNPQAPGAQSSTPKPAHIPPTQEA GRRWEGKWFF
1409	9460	A	2369	694	872	VCPGTGGE*GLWGQLGGLPKETPLKPM DAFTGSGGLKRKFDDVDVGSSVSNSDDEI SSSDSADSCDSLNPPTTASFPTTSILKRQK QLRRKNVRFDQVTVYYFARRQGFTSVPS QGGSSLGMAQRHNSVRSYTLCEFAQEQ EVNHREILREHLKEELHAKMKMLTKN GTVESVEADGLTDDVSDDEDIDVENVEV DDYFFLQPSAIPKRRRALLRASGVHRIDA EEKQELRAIRLSREECGDCRLYCDPEA CACSQAGIKCQVSDRMSFPCGCSRDCG GNMAGRIEFNPIRVTHYLHAIMKLELES KRQGAQQPQI*GALPDCQLQPDRTSGP *DPLTWHLIPAWLQAHASGSQYSRQSOP HSSRRDRMARSSCFSSASIRCTPEALSRA RLRLVGRWLQEEVIIHLHIFHINIFI
1410	9461	A	237	3	463	GTRFLHSFLSSLKHGCGPSLLLAALLLS PGDGAIVRCDTPANCTYLDLLGTWVFQ VGSSIGSQRDVNCVVMGPQRKKK*VVY LQKLDTAIYDDLGNHGFTHIYNQGFEL VLNDYKWF AFFKDVTFISHLFMQLGT VGIYDLPHLRNKAGY
1411	9462	A	2370	2	295	
1412	9463	A	2371	2	345	
1413	9464	A	2372	156	1437	GIETRRPWGRPYVAWLLVVM DALVEDD ICILNHEKAHKRDTVTPVSHL/PGDESVA SHFALVTPYEDIKKRLKDSRKRTSFLKK RIRFLEELI/GSDLKKKQVT*GREQVVK AYHAYREVCIDRDNLKSKLDKMNKDN SESLKVLNEQLQSKEVELLQLRTEVETQ QVMRNLPNPSIQTGEVGVGAGDLKIH GFGNQELELMRKECSDLKIELQKAKQTD PYQEDNLKSRDLQKLSISSDNMQHAYWA ELKERKCLNLHLVTSSYKLELLRKT*KT STAIKKIACAPVGCVEDLGRDSTKLHL DGFLLATYARHPPLPNGKALCHTTSSP LPGDVKVLSEKAILQSWTDNERSIPNDG Y/DAFREHSSYGQNSLEDNSWGIFQSPPK /SQSETAFGETKTKTLPLNPLPHYLDQ HNQNC LYKN
1414	9465	A	2373	28	405	FLYDPAPPFLSIYPKELKVES*IDTCTLFI AALF/LIGKRWK*PKYPLTDEWINK/VWY INTIEYY/SHLKRKDILTHYTTWVNREDLI LSEISQSQKINTVESTYMRYKYISNS*ISIG TSYKSHRV
1415	9466	A	2374	1414	1607	DRVSLWLPRLECSGAISAHCNLCFSGLS NSPTSASRVAGTTGACHHTLLI*FLFV FV VVVFETES/HLWLPRLECSGAISAHCNLC FSGLSNSPTSASRVAGTTGACHHTLLIFV FLVEMGFHHVGK
1416	9467	A	2375	558	985	KKDPRWALYSLYVYKFLHFSYSSAKNP DGCFFQKVLNGFTKFFCKEQYCKLLKLY FYRLFALLWILCLSGFLKFFFYSEIMELV LAAAGALLFC/GNFIIYDTHSLMHKLSPE EYVLA AISLYLDIINLFLHLLRFLEAVNK K
1417	9468	A	2376	664	937	VLLILFSNINIFL*SLPY SFFFIGEDNGSWV LAAAGVALLFCGDSSMDTHSLDGINWS PEEYVLA AISLYLDIINLFLHLLRFLEAVN KK

1418	9469	A	2377	1	739	DPTPVTPRSSLKNDSTNGSSVASATVHIE WAFRLRKVYSILSLQVLLTTVTSPVFLAYF ESVRTFVHESPALILLFALGSLGLNFALT LNRHKYPLNLYLLFGFTLLEALTVAVV VTFYDVYIILQAFILTTTVFFWDCVYS YQSKKDFSXKFGAGLFALLVG*LCLS\GF LKVFFFYSEIMEL\ALAAAGAPFPVDFII YDTHSLMHKLSPEEYVLAASLYLADII NLFLAHLRLRFPQSQNLKK
1419	9470	A	2378	272	1668	AMSQGSVTFRDVAIDFSQEEWKWLQPA QRDVYRCV\MLENYGHVLSLAGLSISKPI DVVSLLEQGKEPW/VWGKREVKRDLS VSESSGENQGLFHQKNVIYDGLHPSI*IM ERNISKVKAPVYSSFKGGWKCKDHTEML QENQGCIRKVTVSHQEALAQHMNISTVE RPYGCHECGKTFGRRFSLVLHQRTHTG KPYACRACGKTFSQISNLVKHQMIHTG KKPHECKDCNKTFYLSFLIEHQRTHTG EKPYEECTECGKAFSRASNLTRHQRIHIGK KQYICRCKCGKAFSSGSELIRHQIHTGK PYECIECGKAFRRFSPLTRHQSIHTKTP YECNECRKAFRCHSFLIKHQRIHAGEKL YECDECGKVFTWHASLIQHTKSHTGEKP YACAE*NKAFSRSFSLILHQRTHTGEEP YVCKVCNKSFSSWSSNLAKHQRTHTLDN PYEYENSFNYSFLETHQ
1420	9471	A	2379	1322	1644	HLELFLGIRGIKMFVGWNTNE*EEKAGLN GSRL*SQHFGKPRWVDH/LRSGVRDQSV GQHCKTSSLQKNTKTSWAWWRAPVVP AT*EAEVGGWLEPRGGGCSEAVSGAF
1421	9472	A	238	12	362	DRVSLSPRLECNSAIPAHNCNPLP/GFK QFSCSLSPSSWG*RCLPPRLANFLY/SLVE IGFHHVGQAGLKLLTSCDPPTSA/FPKCW DYRHEPQ/WPDL*LTSE*GYRYEDSFDFL PKVPI
1422	9473	A	2380	319	724	EASLDLAPNISPPKTSCLPTGSCCSFTQT WMPQSKVFIHGPEQGPWDWALGTDLTA LPFKARNMPNLDTAGLPISIALRLTVNHR RSPGSQELSCLPDSCLSQ/PPQPC*GSLLP LEYKCTPKEALRK*KRLSFLV
1423	9474	A	2381	38	704	SSEEEQSFSSWHQGDPAVTWKWLPK VPPRWRFSHFLDSPWHFLQTAVTPLP QISAAPPKPLLPPTSPLAFFSLLTDLPYL HPQGFSAAGATANKASHNRTRALQSHS SPEGKEEP*TPYPELEYIPARKRGKNPHG KLVTGLGHSFAFCGYSFLFHPSPKRG GTRDRVEGRKARQNIKVCNN/AGEYE EARRFKGLSSQSGPVPPDVAGSGVQT
1424	9475	A	2382	107	449	
1425	9476	A	2383	68	422	
1426	9477	A	2384	54	859	LRRGRSRETNEEPPPTVQVQGGPGQREE KQKTKMAKFVIRPATAADCSILRLIKEL AKYEYMEEQVILTEKDLEDGFGEHPFY HCLVAEVPKEHWTPEGYS*LRHVHGPS VYMDGRGGN*KILYTIK*MIMINEDTAL VGFAHVLIPMPNPWDWQSYLYLEDFSV MSGYKGLGIGSEILRNLSPGCQ*RCR\CS SKHFLVA\EWQ*THPITFYKRRGASDLS Q*RRGWETCSKIGQGSTWLKIGQPEGVR ECCLLGWTTSHSYF
1427	9478	A	2387	112	861	NPGAACKMPAYHSSLMDDPTKLIGNM/A HLLPIRSQFKGPAPKRDTRIPDIVDEAIFL PSGPNVFFKKNYEIKNEADRTLIIYITLYISE CLKKLQK\COFPKAQGEK\EMYTLGIPLN FPI\GEPGFSHFNANLCPNPANK\QEDE VMRAIYLP\SLRPTLGLKTL*EKFFGPS RMDKPQQSGWTWLC*RDSFMNKSLSG PWTIEREFGAAHRLPRGPGAAFFQDVT QSFCLYFSKVFIQKRRACLYLKNS



1428	9479	A	2389	1	395	AKAKMADVLDLHEAGGEDFAMDEGD ESIHKLKEKAKKRKGRGFG/SR*VWGKW GRVA**GRSYGFWSPPHRRNNGRKEEF SVISCMSLIEGSRARMREDYDSVEHDG DEPGQRSVEGWILFVTGVHEEA
1429	9480	A	239	3	153	
1430	9481	A	2390	146	831	CLSGTDEISIEGEMADVLDLHEAGGEDF AMDEGDDES IHKLKEKAKKRKGRGFGS EEGSRARML*DYDSVEQDGDVPGPQRS VEGWILFVTGSP*RKPPEDIHDKFARIM GEIKNISSTFDRRTG/YILKGTYLSLNIET YKEAQAAMEGLNGQDLMGQPISVDWC FVRGPPKIGKRRGGRRRSRSPDRRPSLT GPLLSRCSLQDSIWTMAALGQIGLGWEL CCVYI
1431	9482	A	2391	2	442	FYVILISVRELYLCHHLPFLCAGVYMTNS AMKVFLIWLIVVITVLEFKKLSWPGAV VWF*GLILYTHI*TL/NTHI*VQNVCCYIL QRNK*FHRFCINIKSWLGAEPHACNPSTL GG*HS*VT*AQKFETSLGNIVRPCLYKKY KN
1432	9483	A	2392	2	425	RRANPPSISPSAQDSRVTPGEGPGSP/G* PSRPVS/GPA/PGSGGLRGSSAPATPLGE APSPSA/GPTPALQPCDPGAGP/GTARPG QTASAAPAPLPFRRGAGAPPQAGREGG PCGEEERPPSGREKVSC*KRQTGPGQRR ADK
1433	9484	A	2393	2	662	ACTAADLIAGTTISEAGPHMENQP/GEVA GPAGPPTPSWAPRIPLAPPWRAAAGRDP AT/GQEDSQ*PTPGCPSWPPWPTQLSPSA AGSPIHTPPIQGFHSQLLS*RSPGTEEP*E ANKLPPWTGHREPEPHGLPGHPCAAGS IGHWHLLLLCLATLHGERQRHLHPGQR SGCGVQGRTPPGSAQIQDLPAAPSSILQN LSTQLCSAARPRSMPSRMRM
1434	9485	A	2394	115	187	
1435	9486	A	2395	93	584	KHSASAAQALPGTLGACTGSGGLRGSS APATPLGEAPSPSA/GPTPALQPCDPGAG PVLPGQVKLPQQ/PPAPLPFRRGAGAPP PEIPSGSSFQGYWEGGAQTPGLLPAQRPL PPFPALGSGCSALEEG*ATGTRGHKGG CS*GLWGEPGRAGKHPPHLLL
1436	9487	A	2396	46	438	LQKRVGDWLGEAPPWGWVSHRCRAR TARPGQTASAAPAPLPFRRGAGAPPLAR VPAPPCAQRAPPSSSQGRNQ**AASGP WRPPR/PGREVGTCGEEERPASGREKDS C*ERQTGPGQRRRAVKMTQIR
1437	9488	A	2397	455	1241	ARELRAGGFYVPHRGLEMPETALEAG VSGVGLQHLP/HLGEAPSPSAWPDQTR CSRVIPVQGPVLPQGVKLPQQ/PPAPLPP RRGAGAPPLDLARVPAPPCAQRAPPS SSQGRNQ**AASGPWRPPRQAEKESNC GEEERPASGREKDSC*ERQNGARSAAGR QAKESPQTSRPPDGEPAGEVAGPAGPPTP SWAPRSPLAPPWRAAAARDPATGRRTV SDPHRPAHHGLPGQHSYLLQLQDHL SPIQGFHSQLLS
1438	9489	A	2398	2	328	PLFSDNGKKRGLALDGKCLKHEDTNLASS TIVKEGANKEVLGILVSYRVKVLVVS GGAPETDVPVDTNLIEFDNYATDDDIV FEDFARLRLKGMKDDDYDDQSTRP
1439	9490	A	2399	2	417	EIRAFCAKSLE*KSHKRNSVRLVIRKVQF APEKPGQPASAEITRHLMSDRSLHLEAS LDK/EVRQYADICLFSTAQYKCPVAQLE QDDQVSPSTFCKVYTITLLSDNREKRG LALDGKCLKHEDTNLAFSTIGKEGGH

1440	9491	A	24	497	752	DGVLLLLPRLECNSAILAHRNLRP/GFK RFSCLTLLSPWDYRHLPPRLAIFVFLVY VGFHHVGYAGLEVLLTSR*SARPRPPKIA
1441	9492	A	240	3	423	GSTHASARMAMVMAPRTLTLSSGALAL TQTWAGSHSMRYFYTSGSRPGRGEPRFI AVGYVDDTQFVRFDSDAASQRMERAP WIEQEGPEYWDQETRNVKAQSQTDRVD LGTLRGYYNQSEDGSHTIQIMYGCDVGP DGR
1442	9493	A	2400	188	340	GGALLKDPLGGPNLPGGGKDKFFSFWG AF*NPPGDFWEGTFFLGGGILGP
1443	9494	A	2401	117	457	
1444	9495	A	2402	39	447	
1445	9496	A	2403	3	1359	FPGRFRGGAGILAAGEEAASEPRTERA AGARTMGEKPGTRVFKKSSPNCKLTVY LGKRDFVDHLDKVDVVDGVVLVDPD/Y TMKDRKVFTV/LSPCAFRYAGREDLDVL GLSFRKDLFIATYQAFFPPVNPFRPTRL QDRLLRKLGGHAHPFFFTIPQNLPCSVTL QPGPEDTGKACGVDFEIRAFCAKSLEEK GHKGTSVRLVIRKVQFAPEKPGQPQSAE TTRHFLMSDRSLHLEASLDKELYHGEF LNVKCSFTNNSTKTVQGRFKVSC*GQ YADIWPLSGTAQYKCPVAQLEQDDQVS PSSTFCVKYTTPLSDNREKPCALADG KLKHEDTNLVSSSTIVKEGANKEVLGILV SYRVKVKLVVSRGGDVSVELPFVLMHP KPHDHISLPRPQSAAPETDVPVDTNLIEI DTNYATDDDIVFEDFARLRKGMKDDDD YDDQLC
1446	9497	C	2406	933	1070	MKRKNILYYGTNKLNTNNLLNNFINI LVSSGLSERSFYRYIL*
1447	9498	A	2407	138	1166	VVAMAQVLRGTVDFFGDERADAETL RKAMKGLGTDEESNLTLLTSRNAQVRQ EISCS/AFKTLFGRDLDDLKSELTGKF EKLIVALMKPSRVL*MLIELKHALKGVA GTNEKVLTEIIASRTPEELRAIKQVYEE EYGSSLAED*RWLGDPSSGYYPAGCWLVA LLQANRDPDAGIDEAQVEQDAQALFQ AGELKVGTDDEEKFITIFGTRSWSSF*GK VFDKYMITSRISKRETIIDRETSQGFRSQ LLGCCGILFRRYTSPTLQETFIYAMKEA GTDDHTLIRVMVSRSEIDLVIYPGREFR KNFCHPPPYSMIKGRYIWGTIKKALLLAL CGEDD
1448	9499	A	2408	1	498	
1449	9500	C	2409	14	394	
1450	9501	B	241	1	540	MPVNXKHRRHTIAESLITPNVTDSVKD CIKELGNRLFLWTQGCSSHVATVAPPTA PRGLRVRS AVRPLPLGGWAAAMEGEP PVEERRRLQEELNEFVESGCRTLEEVAS LGWDLSDLPGEAAAELHQIRCQESWE FASSPFCALKLDTSDWDSTNSRIKGCCHQ EVVTGNSCGH*
1451	9502	A	2410	2	353	
1452	9503	A	2411	1	349	
1453	9504	A	2412	123	195	SWKPSFSAN*HSNRKPNTACSHS
1454	9505	A	2413	240	743	
1455	9506	A	2414	284	672	GGWEGLTDTSYRRAPAGIRPVLQRKEQT VIFAVLQPLLVIPR*TASGVDLQQT/GRP AEERPVRKTKKQNAATTSKSTKGTPTQK PHSNVIRFKDERDMDEAGNHHSQQTNT GTENQTTTCSHSYVGVEQ

1456	9507	A	2415	579	1383	VGSCAFYLAVSVFLAPRPFLLHLLQLGAD EVARSWDFLRSPEEFNTNMDIRPNHTIHI NNMNDKIKKEELKRSLYALFSQFGHV DIVALKTMKMRGQAFVIFKELGSSSTNA LRQLQGFPFYGKPMRUIQYAKTGSDIIS KMRGVTFADKEKKKEKKKARTVVDQTAT TTNKKPQGQTPNSAIPQGNSTTQIPQVP DYPKLNIFYSLNKLQRETNEMMLSHA V*ISSTWPSSEVPSGYPRHDAIAFVEFEN VDGQAGAAARDALQGF
1457	9508	A	2416	1186	1451	DLLKVLHEKPKLARRSGSHL*PR/HFGRL RWKDCIKPGVQDHSGQYRESPSLQNIKK KIIWAWWCMPIVPTTQAVKVGSLELK RLRLQ
1458	9509	A	2417	1	412	
1459	9510	A	2418	298	532	MGSWSLPGRTLWKEKVRFLKSKERTNP GSNFFSFPQSQHTREERSQECLSLPVLPS YLATRLSLPDSCPLKGRKAH*QRHSEI*L MGFEPGWPGKL*GWIELAFLGCLHLTL PLPCPTPLPPKSTKSGCFSLSIALCFNKQF AVTK
1460	9511	A	2419	5	977	VRGGLAAGRGRGSAGAAPVVVAAMLG AWAVEGTAVALRLRLLLLPPIRGPG GVAGVAGAAGAGLPESVIWAVNAGGEA HVDVHGIHFRKCIPL*GRVGRASDYGMK LPILRSNPEDQSCYQTERSNREETFGYESP IQREGGLTCWSLKFAE\VFYFASQSQKVF DVRLNGHVVKDLDIFDRVGHSTAHEI IPMSIRKGLSVQGEVSTLYTGNSNME/F VKGYL*PIPKVCALYIMAGTVDDVPKL QPHPG*ERKKGEEEEEEYDEGSIPKKNR PIKNGGQSGPRHNPTP*ASDNSSLMFPIL VAFGVFIPTLFLCLRL
1461	9512	B	242	232	387	MEGEPPPVEERRRLQEELNEFVESGCRT LEEVTASLGWDLDSLDPGEEAAE*
1462	9513	A	2420	1	453	RNSEKEVEKRKVALQEAKLKAKGLNPD GTPALSTLGGFSPASKPSSPREVKAEES PISINAKTVKKEPEDRQQASKSPYNGYN NRRSRSGTYSSRSRSHSESPPRRHHN HSSPHLKAKHTRDDLQSSNRHGHKRKK SRSRSSQSKSR
1463	9514	A	2421	19	434	QRGNYSFEIVAMACINLASKIEEAPRRIR DVINVFHHLRQLRGKRTSYIYQSLGDVE WYIEMKLSSWQQTPSPLILDQNYINTKN QVIKAERRVLKELGFCVHVHHPHKIIVM YLQVLECERNQTLVQTAWVVHDGIT
1464	9515	A	2422	171	437	TSNFYLYSYNNRRSRSGTYSSRSRSHS HSESPRRHHNHGSPHLKAKHTRDDLKSS NRHGHIRKKSRSRSQSKSRDHSDAG*KH RLE

1465	9516	A	2423	21	1855	FPGRFRRLRWACVRLAKTMASGPHSTA TAAAAASSAAPSAGGSSSGTTTTTTTT GGILIGDRLYSEVSLTIDHSLIPEERLSP SMQDGLDLPSETDLRILGCELIQAAGILL RLPQVAMATGQVLFHRRFFYSKSFVKHS FEIVAMACINLASKIEEAPRRIRDVINVF HHLRQLRGKRTPSPLILDQNYINTKHQVI KAERRVLKELGFCVHVKHPHKIIVMYLQ VLECERNQTLVQTAWNYMNDLRTNVF VRFQPETIACACIYLAARALQIPLTRPH WFLFGTTEEEIQEICIETLRLYTRKKPM YELLEKEVEKRVKVALQEAKLKAKGLNP DGTPALST/LGVGFSPASKPFIHQENVKA GRRKSPIFHLMWKDSSKKEPGG*D/RQA FPKALYNGVKEKDS/RRSRNSRSASRS RSRTRSRSRSHTPRRHYNNRRSRSGVYS SSPRSRSPSHSESPRRHHNHGSPHLKAK HTRDDLKSSNRHGHKRKKSRSRQSKSR DHSDAAKKHRVHERGHHRDRRERSRSF EEVP*KARHHGWVPSGTWARAQGADL SSSLWSPAIOFLGFGPIYQCDGMGLNPKT IKRKTGLGDFLETPPRSS
1466	9517	A	2424	1	1566	
1467	9518	A	2425	328	889	GLRTPAAYLYCGTVRTAGVAAASRYQG DNIYVKNLDDSIDDERLQKEFSPFGTI*S AKGMMEGGHSGK\GFGR/ICFSSPEEASK AGTELNGRTVATKPSYVALAQKKEECQ AHLNQHMQRMASVRAVPNHVMNPYK PAPPSGYLMTGIPETQNRPPRGAVGHPC NPSTLGGQEGKNTGSGDRDHPG
1468	9519	A	2426	1	2262	
1469	9520	A	2427	365	2419	FSIPVDFCPSALAPRSPPPGSGPQPRHLS SSHGKVAACGPAGSRAEMNPSAPSYP ASLYVGDLPDVTTEAMLYEKFSPAGPIL SIRVCRDMITRSLGYAYVNFQQPADAE RALDTMNFVKGKPVIRIMWSQRDPSLR KSGVGNIFIKNLKSIDNKALYDTFSAG NILSCKVVCDENGSKGYGVHVFETQAAA ERAIEKMNGMLLNDRKVFVGRFKSRKE REAELEGARAKEFTNVYIKNFGEDMDDE RLKDLFGKFGPALSVMVTDESGKSKGF GFVSFERHEDAQKAVDEMNGKELNGKQ IYVGRAQKKVERQTELKRKFEQMKQDRI TRYQGVNLYVKNLDDGIDDERLRKEFSP FGTITSAKVMMEGGRSGKGFVCFSSPE EATKAVTEMNGRIVATKPLYVALAQRK EERQAHLTNQYMQRMASVRAVPNPVIN PYQPAPPSGYFMAAIPQD*DRIAAYPPS QIAQLRSPRWTAQAGARTHPFQNMPGA IRPAAPRPPFSTMRPASSQVPRVMSTQR VANTSTQTMGPRPAAAAAATPAVRTV PQYKYAAGVRNPQQHLNAQPQVTMQQ PAVHVQGGQEPLTASMLASAPPQEQQM LGERLFPLIQAMHPTLAGKITGMLEIDN SELLHMLESPESLRSKVDEAVAVLQAHQ AKEAAQKAVNSATGVPTV
1470	9521	A	2428	2	237	
1471	9522	A	2429	68	866	GSTGAVTAATATAATAAGASAPLGLPV YLPAPRSTAPAPSPAASALLFLVTPPSRP ERLPSHQPPSATMATAPYNYSYIFKYIII GDMGVGKSC\LLHQFTEKKFMG*FVPH TIGCWNLGTRINESLVGQKIKLQIWGLR QGQERLRAVYT/RAYYRGAAGALMVY DITRRSTYNHLSSWLTRCQGISPNPKYW **FSIGN*SQIWRPQRDVTYEEAKQFAEE NGLLFLEASAKTGRRIVEDAFPLRACPR KIYQNIQDGKLG

1472	9523	A	243	1124	1394	ACDDWNRMDKSHLHPPPPFFRPDPYV GPSGTRSPPTSGSRSPNRNSAPPAPAA PPQVQARPP*HSPPDKRKRPNCRTRGSP PWFRS
1473	9524	A	2430	229	593	SLICFVGVGDCAEFWVTRLAPRAEKRR LAPAVPPHHQDERGGTSTPHFHNLSHG WVTFPALLPQYDILPLNSFLHEIQEPSL SGLGPFSCNTYLISFSSTCHLAPVINLWA LPGASIM
1474	9525	A	2431	594	829	PCALVLPLRPYATK*GMLPWLLLGHLS RAFAVALDHILF*VL/CHV*IPSILTKIFEN GYFVISVLLMRNILSSALL
1475	9526	A	2432	1479	1734	LKVNISLGMVGHACNPSTLGSQE*ATVP LILYFLNKLAFTSHCGITLNSFLHKIQEPS LGSRLGPLSCNYHATALQPGQQSKALS
1476	9527	A	2433	30	508	
1477	9528	A	2434	338	853	EGRGFGRAGLPPLCIAALFQFMNYMPG TAVTLIEDINDKKHLVLLRDGRTHIGFLRS IDQFANLVLHQTVERIHVGQK/YTGDIPR GIFVVRIGENVVLLGVEIDLEKESDTPALQ QVSH*RKFLLEEKGWQWQTKLAEAKL KVQALKDRGLSIPRADTFDKDLFFCPEA VGS
1478	9529	A	2435	357	893	TVFQIWANHGPQRPARQLCPVHLLGGQS HQEPRHITSNSEPSRASASLRRLTPLKPTG IGPGSQILEDREDFRAFT*WGDYFWGKGA PACLIQDGVKGQWAGPHSGVGGVWGP APRACPPVFPQGPQSSACGCQYLSRP KAYPQGWGRGGDPGQNVRSVCDLRC CMWTLNCTCSF
1479	9530	A	2436	233	566	RLFLVRKRMISFSAPPLMLPFSFYFFVC PAARTARKRKPSPEPEGEVGPCKINGEA QPWLSTSTGLKIPMTPTSSFSVPPPTA* PHSNRTTPPEAAQNGQSPMAALIL
1480	9531	A	2437	219	702	ARKVRAAAGLESRTGSTGRPCATRC WRCTSTATRGPSRASFKKEPALTA VART ARKRKPSPEPEGEVRAPLRSTEKAPGC PHSTGLKIPMTPTSSFSVPPPTASPHSN PGPHRLESGPRMGQFFIGSPDLSSRQFRG QSCSKDANQVHSTTRNSN
1481	9532	A	2438	173	1136	ALEGAGKSRGFWRAGLGQQAQDRARH AAGRCTSTATSGPFESKFKEPALTAGR LFGVFEGQRGQPLKAVCKNSKGGKSP LPEPRKVKSGPLKIQRGSPSRRL/SPHPQR GSRSP*LLHPLLCLRHPLPHLIPTGPHRL KRPRMASPPWQP*S**QTMQGASHASKD ANPGSLPTTRKE*PTVGPSSVLL*TKERL GPKRGGGPREQATQEDWEPVHPASLPDF LFGQPVAPLCCTLCHERLEDTHFVQ/CPS VPSHKFCFPICSSQGIKQGSISGEVYCP SGDKCPCSCGLPMSPWAFMQGEIATILA GDVKVKKERDS
1482	9533	A	2439	1	206	PTRPRTSYEKQGYLLPPVFSIVLEVLR AISQETEIKSVQMGKEEVKLSLAFVCVYI YA*ENPVESTK
1483	9534	A	244	171	512	CTVGVRCTVFPTEHKLPVESHVSRSE SVINKI*ANQIWEH/TKKIIHHEEVGFLGM QGWLNIRKAPTEIYHNR/SKDKNHMIILT /D*EKAFDKI*HYFILKTLDKLGI*GNF

1484	9535	A	2440	611	1203	ERLLRVCLALGSAGTADDVKLHPVSCA DTARSTPGTSAPSTSGTSAPFTPGTSAPST PGTSAPSTPGTSAPSTPGTSAPSKPGTSAP STPGTSAPSKPGTSASSTPGTSAPSKPGTS APSTPGTSAPSKPGTSAPSTPGTSAPSKPG TSAPSTPGTSAPSTPGVQHPPHRRGPQHPP SRGPQHPPHRRGPQHPPSRGPQHPPHLLGP QHPPSRGPQHPPHQQGPQHPPSRGPQHPP/ PPGTSAPSKPGTSAPSTPGTSAPSKPGTSA PSTPGTSAPSKPGTSASSTPGTSAPSKPGT SAPSTPGTSAPSKPGTSAPSTPGTSAPSKP GTSAPSTPGTSAPSKPGTSAPSKPGTSAPS KPGTSAPSKPGTSAPADPGVL
1485	9536	A	2441	447	920	GWHWFLASQKSLLKPPLSRNPCVLVSCH MAQSWARTQEFLCPMCPTT/CAQSGTGT ESCFPNPN*VLGAGAPQPDQRCHKAGPF SSVPGFRLPSSRHGGPVLPGLGPPGPPG RPPHKPSNEQRDAGQQLQLPPPACQKG LPQLPFCLKFYSLPELPH
1486	9537	A	2442	1	374	LRKDDTQIREAFHIFVQSWRPALPSLPSL PLARALAETLNQPFSGSLITPSGILLNSQ MLDFSWPNRTANHSAPS/TVVRPAEGLC GTYLALGANGAARGLSGLTQVLLNVLN *NRNLSDSLARGR
1487	9538	A	2443	1	315	
1488	9539	A	2444	3	2027	NSRVDDFVARARMAAENEASQESALGA YSPVDYMSITSFPRLPEDEPAPAAPLRGR KDEDAFLGDPDTDPDSFLKSARLQRLPS SSSEMGSDGSPLETRKDPFSAAAEC SCRQDGLTVIVTACLTATGVTVALVMQ IYFGDPQIFQGA VVTDAARCTSLGIEVL SKQGSVDAAVAAALCLGIVAPHSSGLG GGGVMLVHDIRRNESHLDIFRESAPGAL REETLQRSWETKPGLLVGVPGMVKGLH EAHQLYGRLPWSQVLAFAAAVAQDGFN VTHDLARALAEQLPPNMSEFRFTFLPF GRPPLPGSLLHRPDLAEVLDVLGTSGPA AFYAGGNLTLEMVAEAQHAGGVITEED FSNYSALVEKPVCGVYRGHLVLSPPPH TGPALISALNILEGFNLTSLSREQALHW VAETLKIALALASRLGDPVYDSTITESMD DMLSKVEAAYLRGHINDSQAAPAPLRP VYELDGAPAAAQVLFMGPDFFIVPMVS SLNQPFSGSLITPSGILLNSQMLDFSWPN RTANLSAPSLENSVPQGRPLSFLPTVV RPAEGLCGTYLALGANGAARGLSGLTQ VRFTPWLAFPSREPSGLDCRCLS*QSNL LQVDSECAETSWGGHRDR*RKDSSQG CPWVHGSRRTNFIIAVKDPRSPDAAGA TIL
1489	9540	A	2445	83	310	IFQCTKFTWDSQITPRLFHPAPPTWCRPL PVSG*RRVRGWATTRQSGGGGRGPAPLS SQAPPKGPVPFQWHLRAEG
1490	9541	A	2446	1	1833	
1491	9542	A	2447	3355	3951	
1492	9543	A	2448	699	975	
1493	9544	A	2449	3	132	GRFSSESPRA\GPPAPHRGHVQRCCVS PTGLLIWKELEPF
1494	9545	A	245	1	293	FLRWSLALSPSLECSGAISAHRLN/RLPGS TNLPA\TSRVASTVGMATAPGLNFCIFS REG*VKHVGPGCLELP\TSSDPLPLVSPK LRDYRPEPLCLA

1495	9546	A	2450	2	1734	TDLKRCTYYETCATYGLNVERVFQDVG IDSAVPCSAQKVVALRKKQQLAIGPASH CPNSPKHWAWSAASIPAVHNTQATNGG GKAFFSDYSSVPSTPSISQRELNIETIAAS STPTPIRKQSKRRSNIFTSRKGADLDREK KAAECKVDSIGSGRAIPKQGILLKRSK SLNKEWKKKYVTLCDNGLLTYHPSLHD YMQNIHGKEIDLRTTVKVPKRLPRAT PATAPGTSRANGLSVERSNTQLGGGNR GRGVV*ICGWVSLTGADVGTGEGFNGR RERELGFSVQAQILASLQGCQCQGG DFDLGNQNAALAVQAVRTVRGNSFCID CDAPNPDWASNLGALMCIECSGIHRHL GAHLSRVSLDLDWPELLAVMTAMG NALANSVWEGALGGYSKPGPDACREEK ERWIRAKYEQKFLAPLPSDDVPLRQQL LRVVEDDLRLVMLLAHGSKEEVNET YGDGDGR TALHLSSAMANVFTQLLI/W GESRASSLP*PRSS*PCSLKATSSFLPYNQ SLSSHVLPVTNMCFLQYGV D VRSRDAR GLTPLAYARRAGSQECA
1496	9547	A	2451	329	3294	ESEILWGEQLAGGPPQFALSNSAAIRA EIQRFSVHPNIYAIYDLIERIEDLALQNOI REHVISIEDSFVNSQEWTLRSVPKIV GIVGNLSSVKSALVHRYLTGGPIVQGG SPLKGGGLRSEIAADGHSYLLIRDEGGP VGEQYAAWVDAMVF/VWSPCEDGITFS KTVYNYFLRLCSFRNASEVPMVLVGTQ DAISAAANPRVIDDSRARIKLSTDLKRCY YETCATYGLQCGSVSFQDV
1497	9548	A	2452	493	955	TLCTYLISEVISLPGTAFIQRKGLGRPS QNNAYSLSQTSPLIIFLRVQGFDLNLA LVLFSSGGTESRSIAQLECSGMTSAHCN LRFLGSSYSPASAS*VAGTTGACHHAQLI FLVFLVEKGFHRVSRDGLHLLNLVIRPP QPPKALGLQA
1498	9549	A	2453	158	720	PPPCRAKQHQT KTKKRPIQRATSNV FAM FDQSQIQEFKEAFNMIDPDQDGFVIRE DLHDMLASLGKNPT*WSILDAMMMRA PGPPSNFTPWFPHHGFGE/RLNGHQIPE DVHRKMPFACFE*KKPLGTIRIEDYLARE LLTHGGIGFTDEEVDELYREAPY*PKRG NFNYSEFTRILKHGA KDKDD
1499	9550	A	2454	2332	3329	VAGATGTHHAWLILSFLRWSLTLSPLR ECSGTSAHCNFRLLGSSNSPASAS*VAR ITGAHHHTRLIFVFLVETRHHGGQVGL KLLTSGDPPASASQSTGITGVSHHAWPY FKLFCRDGVLLCCPG*SQTLGLKQSSCQ SFPK*LDYRCEPPRPTNL*RCIARDVPYL TTSPVRSRGGTRM/EKEVPEQRLAGSRM GQELTQPPSTETSWSLGRRRTKSPLF*IFF MFLRRSLNSVTQAGVQ*HNLGSLQPPPH GFKRLSCLSLSSWDHRCPTPCLDNF*IF GRDG/GFTMLARQVNS*PQ/GPPTLASQ SSGNTGLSHCNQPVAPIFAPR
1500	9551	A	2455	566	1037	GSTLSPSLPGFCPENS NKCKFNLLTAES LKLPODLSFDPSQKPTQVRHL/ESPPGEG PPSRAPQKNSHEIRWCLMKCIFL*LGR MKAQTPTLFSPGLGMSPAARPRSPGG LGEVGAGTISVPSTLTPSTSETTLQPRY GMKLADADV GKKKKK
1501	9552	A	2456	349	679	ELGHWGNRVCLSEALGLAELHPCPGNE VGPQRQG*GLAVLILAILLQGTLAQSIK GNHLVKVYDWQEDGSVLLTCDAEAQN/ ISTWFKDGKMIGFLTEDKKK WESGEVM PRDPRGMYQC*RDHRNKS KTSQVLFT GMCSGTCL*DLNAATISGFPLWLKTVSL FVLAFGVYFIA/GQGWSSASPRASDKQT LLPNDPAPTQPLKDPKMTQYSHLQGN

						QLRRN
1502	9553	A	2457	356	505	WTGGKKKAGWMPKKE/SVKLAQ*CMP VIPATQEAETGKLEPRSSRS AWET
1503	9554	A	2458	35	359	
1504	9555	B	2459	102	431	MIIYRDLISHDEMFSDIYKIREIADGLCLE VEGKMVSRTEGNIDDSLIGNASAEGPE GEGTESTVITGVDIVMNHHLQETSFTKE AYKKYIKDYMKSIGKLEEQRPDR*
1505	9556	A	246	466	743	LNHAVQEMIVKIELTQHMYINFHGIKLEI NKGKKFGKLIHLWKLNNVTLSAQ*VKA EIQKGNKEIVLRWNKKEGMMYQNT/W/ DVAKPVLRAAW
1506	9557	A	2460	1	581	
1507	9558	A	2461	88	779	STWAVRGSRGWGVGWGGGGGSHDEMFS SDIYKIRGDRGRGLCLEGGRRVWSRT EIGNIDDSLIGGKCPPLKGPEGRRVPERH QLITGVVDIVMNHHLPGNKFSQKEASKK VHQRITMKSIGKGL*RTDPEKSKTFL* QGAAEQIAHPLPNFQKLTSTFNGENMN PRWAWVLLLDYRE/DGWCP*YDFLLRD GLEMEKMLTNVGNFYGSITLSSITGLLPC HPTQPPGT
1508	9559	A	2462	12	159	WSHLLRMLQL*WS/HPPKNAAAYSSCRV **ERRGLIRTYGLDMCSQSFQYAKDIGF IKLD
1509	9560	A	2463	46	371	FVILGKRCRGALGCLKSQVEEATGGTRE HADWESLVPLQACTVAWESRDAGSSR LSAESCNFYDLQNRCLFSYSRVCSNRHG LVRKYGLNMCRQCFR\QYAKYIGFI
1510	9561	A	2464	1	591	GLLQAECPWRSSGEAAFREITMEIWLLA WAISPVALSESTDPETWQSRCEDRHFLF KFLVIGSAGTGKSCLLHQFIENKFKQDSN HTIGVEFGSRVNVVGGKTVKLQIWDTA GQERFRSVTRSYRGAAG/ALLVYDITSR ETYNLAAWLTDARTLASPNIVILCGN KKDLDPEREVTFLASRFAQENELMFLE T
1511	9562	A	2465	3	495	GRDRVMAETYDFLFKFLVIGSAGTGKSC LLHQFIENKFKQDSNHTIGVEFGSRVAN LGGEPPVKLQIWDTAGQQTGFAGKTYT SLAAWLTARTLASPNIVILCGNKKDL DPEREVTFLASRFAQENELMFLETSALT GENVEEAFKLCARTILNKIDSG
1512	9563	A	2466	1	2022	
1513	9564	A	2467	3	715	REQARPRRHIAALSGRDRVMAETYDFLF KFLVIGSAGTGKSCLLHQFIENKFKQDSN HTIGVEFGSRVNVVGGKTVKLQIWDTA GQERFRSVTRSYRGAAGALLVYDITSR ETYNLAAWLTDALTPVQPKTGAFCLC GNKK*PGPLEREVTFL/APSRFAQENEL LMFLET\SALTGENVKKAFKLCARTILNK IDSGELDRERMGSIGYGIASLRKLRQP RSAQAVAPQPCGC



1514	9565	A	2468	3	953	VKMALVASVRVPARVLLRAGARLPGAA FGRTERAAGGGDGAIRPFGSQRVLVEPD AGAGVAVMKFKNPPVNSLSLEFLTELVI SLEKLENDKSFRDVLTSDRPGVFSAGL DLTEMCGRSPAHYAWVLERPVQELWL RLYQSNLVLVSAINGAICPAGGCLVALT CDYRILADNPRYCKGIQIRPKVGIICPFW G*KETLGKNLLGPGGGESALQVGLLFP PAGRPKVGVVDQVWSPEKQVQSIGLS AIAQWMAIPKPMAHKLTAKIMRKGQGP PAWSRKGADVQNFVVSFISKDSIQKSLQ MYLERLKEEG
1515	9566	C	2469	1	774	MKEVVYWSPPKVVADWLLNAMPEYCE PLEHFTGQDLINLTQEDFKKPLCRVSSD NGQRLDMIETLKMEHHLEAHKNGHAN GHLNIGVDIPTDGSFSIKIKPNGMNGY RKEMIKIPPELERSQYPMEWGKTFLAF LYALSCFVLTVMISVVHERVPPKEVQP PLPDTFFDHFNRVQWAFSICEINGMILVG LWLIQWLLKYKSIISRRFFCHIGTLYLYR GITMYETTLTAPGMLCNCSPKLCGDCEA QLR*
1516	9567	A	247	243	935	IPVGELYPLLEDGIAAFIEWNPHEALWE PQEQQETQGPKSKHGEAPVGASWPFR GFGEARPPPPVRPTLIHAWKSS*PICLFS RHCHQALPGGTLDKWPSSPRG/GCSPRT PGVTQQARRLSPHRVAG*QSSSGACPW MSRSSAPFPFLTPSQSPRAAL*VRKTKSP GTGEHRLWTGLGAGGV SARPVVKHSAG PGGIHGGRAPGAEQRSGLWKAGCWGSV RASAPGP
1517	9568	A	2470	263	621	EVRLLSRPWPHEHEHGPWPLTIKWDFP DYRQWKIEGTPFRKTIQKKGCKKGLR DWPWGRNEAWRYMGGFAKVSFS*CIL FKGFKWGDLLAFVVAVRELEYLPGES* IKDKKHH
1518	9569	A	2471	1	225	
1519	9570	A	2472	99	493	TASPAPPQAFRRSSSLKIRESIIRRGSEKL VSRLRGEAA/RRTSRVSDQVGKEP*HQ QNRQPTPPPPFCSTRFHGSHLPDTHRS NPVLESLVEGGHSHWISFPCCPLCRM KRDMSLNTLNVDA PRAPG
1520	9571	A	2473	70	299	AVGSVHAGVQQWVSGGVGPPGSGAGPP GRKPRL*RGPSDPARRNAPIERLSRRR GRCSARGLRGRDQEEGQPGRT
1521	9572	C	2474	129	602	MFERIVXADEHVIDQGDGDGNFYVIERG TYDILVTKDNQTRSVGGYDNRGSFGELA LMYNTPRAAIVATSEGLWGLDRVTFR RIIVKNNAKRKMFEFIESVPLLKALKD GQRFNPHLHFAFEGPFIRPLVKITPTQFLY LWFKTACLSNNLSA*
1522	9573	A	2475	38	1523	RRVARPGNAEPAKERRDVSRGRARRDL AGAERKAGVSESGDSGRRRPNPSIPSA AGMSHIQIPPLTELLQGYTVEVLRQPPP DLVEFAVEYFTRLREARAPASVLPAAATP RQSLGHPPPEPGPDRVADAKGDSESEED EDLEVPVPSRFNRRVSVCAETYNPDEEE EDTDPRVIHPKTDEQRCRLQEACKDILLF KNLDQEQLSQVLDAMFERIVKADEHVI* PKGDVGRQPFYCHRTGGTYDILVTLDN QTRSVGGYDNRGSFWRLALMYNTPRVA ATIVATSEGLWGLDRVTFRRIIVKNN KKRKMFEFIESVPLLKSLEVSERMKIVD VIGEKIIRADGER*ITQGEKADSFYIESGE VSILIRSRTKSNKDGGNQEVEIARCHKGQ YFGELALVTNKPRAASAYAVGDVKCLV MDVQAFERLLGPCMDIMKRNISHYEEQL VKMFSSVDLGNLRAVGVPHTSLLSVT PKPSGQPONTYRKQT

1523	9574	A	2476	1	912	EEFAAVSERIHEQVRDRQLENEYVCRVE GEFPTTEVTCKEPILVVSYKVGVCVRVDP RGKPCETVFQRLSYNGQSSVVRCLTG RTHQIRVHLQFLGHPILNDPIYNSVAWG PSRGRGGYIPKTNEELLFVPG*AEHQAK QSLDVLDLCEGDLSPGT/LTDSTAPSEL GKDDLLEELATAAQKMGGK*AEAAPQE LDTIALASIEKAVETDVMNQETDPTLCK MPAGATGSLAPRPCDVPTCPNAIKGQAL STFHMPAWAQDDWQKD
1524	9575	A	2477	3	806	DFLLLVLTGLYIYRKSIIHKVLE*IEEFINV TSYKVNQKDIALRTSQKH*KTN*KYKA KYLEIN*TNQDFYNENYKTLRKVKDN LGKWTIIPYSSTGKLDIVKMSIILRLFYKT NAITGIVPK/HSFVKINPEIPKLI/YGNMGN REGKTILKNKKVGRSLPDPFQKYKAT*I KIVWY*CKKRQMNQEAETSARKRPS L
1525	9576	A	2478	184	793	SALRRGAGAKAGRPLAPATALGGOTQP EKGPPAPP*NGWTGLGAGPPAWRARPRPS PPEFSQFSLSYNMS*AKVGG*EHGSTAPG EGG/P*RKGGGPPPPNPQRQGGSPGTSP
1526	9577	A	2479	69	403	QEONPQISILTLNRNG/LNATLKRYRLN QIK/SFCKKDQTMCCLETYLTCKDTHR PKVKG*KNI
1527	9578	A	248	56	247	RRLPTGILAGRVSAAVKPTHRTQNSLLQ QRITPRPWGGSHL*SQHFGKPRQADHL SPGV/PRVSPG*RGETPSLQRIQTLAQVLC CAPVVPATREVEVGGSPEPGRSRLQ
1528	9579	A	2480	502	834	VNMRDRFGQIMENLRRRQCELAVETC KSLESRIESLEFLDEM*/LLEQLM/RHYCL CWATKGGNELGLKEITY
1529	9580	A	2482	1	220	
1530	9581	A	2483	98	394	
1531	9582	A	2484	1	381	
1532	9583	A	2485	1	645	
1533	9584	A	2486	10	1228	AAPAEPRALPSSVAFSLWLAPSPAARR PRFHVPGGAQLPGTVHARWPARQRIESSI VSCCSTSSCDADDEGVRGTCEASLCKR FAVSIGYWHDPYIQDLAVRLSKQRKAP EINRGYFARVHGCSVQLIAFLRKTEC HCSNCSNLGGQGMGSPPFWRKDEDLS SQVNIFEVDFFMIVTRKLHSIKWLAFPLS SPILELHSEDTLQMASDCICDGHILDSKR YAVIGADLRDLSELEEKKKCNMNTQL PTP*IAECVLVYMTPEQSANLLKWAAN SFERAMFIYYQQVNMGD LFGQIMENLR GRPVC/LAGVETCKSLESQKERLLSNG WENKHPVVRT*LEFVPPGLPSKLK*SRIE SLEINLDENWELLEQLMRHYCLACWATQ RRK*SLGLKEITY
1534	9585	A	2487	3	247	
1535	9586	A	2488	1	922	MQLKPMENPEVSARCTATRRARGRGR GSRVADRFGFAFFFAFQMLNKVLSR LGVAGQWRFDVLGLEEESLGSVPAPA CALLLLFPLTAQHENFRKKQIEELKGQE VSPKVYFMKQTIGNSLGPLPNSTQGPNI KDQLGFEDGSVLKQFLSETKKNVPLKD RAKCFEKNIAQAAP*MPVGTGKAQCR VDDR/VNFHFYSG*PTVDGPPSMNLDGP NAFSPWTHGPQLQEDTLKWDASKVCRR NSPEREQRRSPASSARGFSCKGSLNALW GGICWIFPSFPFKHGKYITPCQSKMLQY L
1536	9587	A	2489	18	255	NWISFLPWHYSHFEVYERYDSVL*IPFSL LQ*PIENVYPKI*KKKSTSSNKIALVLSGT YKNSLEPRSGASSVLWFTPNL

1537	9588	A	249	1	372	RALAVSMLGAWPGPWALDWGPYSMTA RHGTFSL*APYPDPCPAGPPAPRQOGK APSGCGGRSICSGRLPSVVWPLMPAWQR PS*/GGGLHSAPNARKAQAYPGCLPFYLP LPGLLSGWSAGFLC
1538	9589	A	2490	2	568	ERGRKMAVESRVTQEEIKKEPEKPIDRE KTCPLVLRVFTTNNGRIHHEMDEFSGWN VPSTELQIFPL/WMDATLKELTSLVKRV YPEARKKGTHFNFAIVFTDVKRPGRYR*F SFLQS*GGLASTMSGRKGTDDSHPELQ SQKFQIGDYLDIANYPLPNRGTHPPSG RMRPILNFYLLFVEFIFPSVM
1539	9590	A	2491	3	506	FFFFLKTSTLSFITTHCLQIQREGPGAEG AAVAGGAPRGAEGPAATSTETGGSAGD/ AAPSP/RGLPSK*QEGPGFWGDPNARQ WPGGRGRREAWRGLRAGSGESHQVGP WPAASRSTGGSGQVGGAGERLGEDSGL GOVKATRWGLSPPPAALEEA VANTGPSP PC
1540	9591	A	2492	3	639	APEFPGRHLLLTQLCSLASLIQTRMVHLT PEEKSAVTALWGKVNVDIVGKGALGR LLVVLVPWDPKRSFEVLWGNLSQLECC *WGKPLKVKGSMAKEKVLGCPLSDGLA HLGQPSKGTFAHTEVSLHCDK\LRGSL KNFRLG\NVGLCLAHFAGKRISTPP VQA\A*SRKLVGLVLAKCPWPHKYHLKL AFLAVQFLFKGFLWSLKTNY
1541	9592	C	2493	217	396	MSEETAKEVMRAYLQQLRQETGLRLCE KVFDPPQNDKPSKWWTFCVVKRQFMNKS L SXPGQ*
1542	9593	A	2494	79	778	NPAAKMPAYHSSLMDDTKLIGNM/A HLLPIRSQFKGPAPKRDTRIPDIVDEAIFL PSGPNVFFKNYEIKNEADRTL\YITLYIS VECL\KKLQK\CQFPKAQGGGKEMFYAGE STNFSHFLGEPGFPL*PPFYAQTWPTTQ EDEVMRALFTTQLRQETGLRLCGESFS DPIQNG*TPAKWWTFCVVKRQFMNKS L SGPGTVEGSPGQPTVFPEALGQHFSKM LHNLFAFIS
1543	9594	A	2495	1	471	
1544	9595	A	2496	1	1524	
1545	9596	A	2497	2	719	RPQRAGPVRRAGVMALLDLAEGMAVF GFVFLV\WLMHFMALYTRLHLNKKAT DKQPYSKLPGVSLKPLKGVDPNLINNL ETFFELDYKPLFFSVAPMKRIEKTQM** P*YSTY*YEVLLCVQDHDPAIDVCKKL LGKYPNVDAARLFIGGKKVGINPKINLM PGYEVAKYDLIWICDSGIRGTMEMPSL EQSYDPNVDPYRNNGDADGQHLVLH DFYQQGSGPKCSLINA
1546	9597	A	2498	200	370	
1547	9598	A	2499	295	1546	CVLLDLAEGNVVPVGFVFLV\WLM HFMALYTRLHLNKRATDRQPYSKLPGV SLLKPLKGVDPNLINNL\ETFFELDYK/ KFNLHMLFD*YEVLLCVQDHDPAIDV CKKLLGKIYPNVDAARLFIGGKKVGINP KINNLMPGYEVAKYDPIWICDSGIRIFP DTLTDNVNQMTKVG\LVHGLPYVADR QGFAATLEQVYFGTSHPRYYISANVTGF KCVTGMSCLMRKIDVLDQAGDFIAFAIQ YIAKDYFMAKAIADRGWRFAMSTQVA MQNSGSYSISQFKSRMIRWTKLRINMLP ATIICEPISRMPLLPSLINWDGQAHNVFR WDIMVFFYG/CHCLAWFIFYIPTPGVS QGGTLFCFSKGLMQSPWFIRESMITYIFL SALWDPTISWRTGRYRLRCGGTAEIILD V

1548	9599	B	25	922	2057	XTQTDSPWFMISEKQRNFNAESTIGSHIH GPRIVAGLHAPTLMEEDDALQETVRAS IRKEQRNSRHDGGDGIRKAHAAIPRESRS MKRSPRKEVKKKRWNRPKMSLAQKKD RVAQKKASFLRAQERAAES*
1549	9600	A	250	13	475	NGSSLRSPRLR*SRTIPQSS*VAGITGAHH HARLIFFFFFETESCRVSQAGVQWRDL GSLQALLPGFTPFSCLTQSSWDYRHPPP RPANFLYF**RRGFTVLARMVLIS*FRDP PASASQSAGIIGVSHRARPRGRLLAPSYI CRNRGLEG
1550	9601	A	2500	3	331	GAILAHCNLRPL/GFKQFCSLSLPRHS*TS Q*PLTSRLPMVRHG*VKKSEGILCSLPPC TT*VPTSSAPMPWPSRQWERSRTMTVIS SSQLMALGPSCPQRDGSPTSSP
1551	9602	A	2501	15	310	DRVSL/LSPRLECSGAILAHCNLRPL/GFK QFCSLSLPSWDYRRAPPHLANFLYF** RRFFRH/GCPGWSLLSSGN/PATLAF*KC* NYGHEPPHPARKIHI
1552	9603	A	2502	3	467	PAPQSLLSARHVSALPTPAS/R/CSGLPP MTPKTMPPRA/VGSPLCVPARRRSSEPRK NSAM/RALLVDIKLEPLAVTPDAA/SQPLI DLPLIDFCDTPEAHVAVGESRPLIDLMT NTPDMNKNVAKPSPVVGQLIDLSSPLIQL SPEADKENVDSPLLK
1553	9604	A	2503	2	273	FASIPANSSRPLSNISKSGRMGHAMLRPA LPAGVVGASSWQAKRSESSQLNKTRSIR RRHSCLNSKTKVMPTPTNQFKIPKFSIGD SPKA
1554	9605	A	2504	1	472	VGRVTVHSTPVRSSGPGPQSLLSARRV SALPTPASRRCSGLPPMTPKTMPPRAVGS PLCVPARRRSSEPRKNSAMRTEPTRESN RKTDSTLVDVSPDRGSPPSRVQALNFSF EESDSTFSKSTPLIDFCDTPEAHVAVGSE SKPLIDLMTNTPDMN
1555	9606	A	2505	759	1664	TAGCGLGCASGPQAGHPATAGPQTLLPS AGGRAWSSCPRPALHRWPAGWEGCG YRRWS/RAASYSPWKNKVLLIKPFSIRYK AQSNSYDKPTYQSPSRRLSAA*IPTHP* SLLSSRGCCERRCAPTMRQPGAADTEPMC YHSWPHHSLFLPSSCLWGAGVEDKEL VPLWRVFLPGRRSWFPSSQKSRCLSHSC LGCCQVSRRGKFEQQNLSSVPDSPGKNK HHGKISGPTCLSGGPGESVPIVHRLSESS HWQMSLLQTRAAAPALSAAGFLKSPPLS SQPGPALCPASRSFQCQSAQGG
1556	9607	A	2506	1	377	ASRRCSGLPPMTPKRCPPGRGSPLCVPA RRSSEPRKNSAMRTEPTRESNRKTD SRL VDVSPDRGSPPSRVQALNFSPEESDSTF SKSTATEVAREEAKPGGDAAPSEVGGLL EPRSSGPAWEMM

1557	9608	A	2507	3	2112	ILLLADEKFDLSDLSSSSANEDDEVFFG PFGHKERCIAASLELNNPVPEQPPLPTSES PFAWSPLAGEKFVEVYKEAHLALHIES SSRNQAAQAAKPEDPRSQGVRFIQESK LKINLFEKEKEMKKSPTSLKRETYLSDS PLLGPV/VGESCTAHAASQAATQRKPGT KLLLPRAASVRGRSIPGAAEKRTARMPK GRRKRK*QVLF*G*GCCGG*GEG*GCGE AGSSRIAPKKEIPASPSRTKIPAEKESHR DVLDPKPAPGAVNVAAGSHLGQKRA IPVPNKVNNEIFADSVFHFAPLGLKKT LKAPGSTNLARKSSSGPVWSGASSACT SPAVGKGLCCTPVCPARPARPLHSCCK MTPSRPWLMWQCREGLECP*GSGGTWV VRHSCDRRAGRSGQSPRPHFGSSEVLG* TWRPGERGTGSDPSSTPKLSRAQRQSC TSVGSSRH*CCVCRTVHSTPVRSSGP APQSLLSAWRVSALPTASRRCSGLPPM TPKTMPRAVGSPLCVPARRRSSEPRKNS AMRTEPTRESNRKTD SRLVDVSPDRGSP PSRVPQALNFSPEESDSTFSKSTATEVAR EEAKPGGDAAPSEALLVDIKLEPLAVTP DAASQPLIDLPLIDFCDTPEAHVAVGSES RPLIDLMTNTPDMNKNVAKPSPVVGQLI DLSSPLIQLSPEADKENVDSPLLKF
1558	9609	A	2508	68	2331	LLTALSMEEGGRDEPSASRAGDVNMD DPKKEDILILADENISTFDLSLSSSANED DEVFF*PFGHKERCIAASLELNNPVPEQP PLPTSESPFAWSPLAGEKFVEVYKEAHL LALHIESSRNQAAQAAKPEDPRSQGV RFIQESKF*INLFEKEKEMKKSPTSLKR ETYYLSDSPLLGPVGVPRLLASSPALPS SGAQARLTRAPGPPHSAHALPRESCTAH AASQAATQRKPGTKLLLPRAASVRGRGI PGAAEKPKKEIPASPSRTKIPAEKESHRD VLDPKPAPGAVNVAAGSHLGQKRAIP VP*NLKGLKKTLLKAPGSYSNLQRKSSS GAIVWSGASSACTPQPVAKAKSSEFASIP AN*LPGLCPNISKSGRMGPVAMLRPALP AGPVGASSWQAKRVDVSELAEEQLTAP P*ASPTQPQTPEGGGQWLNSSCAWSES SQLNKTRSIIRRDSCLSNKTVMPTPTN QFKIPKFSIGDSVPSSTPKLSRAQRQSC TSVGRVTVHSTPVRSSGPAPQSLLSARR VSALPTASRRCSGLPPMTPKTMPRAVG SPLACVPARRRSSEPRKNSAMRTEPTRES SRKTD SRLVDVSPDRGSPSRVPQALNF SPEESDSTFSKSTATEVAR EEAKPGGDA APSEALLVDIKLEPLAVTSDAASQPLIDL PLIDFCDTPEAHVAVGSES RPLIDLMTNT PDMNKNVAKPSPVVGQLIDLSSPLIQLS PEADKENVDSPLLKF
1559	9610	A	2509	1	353	DVQLEGAKIGSTEITFTPEKIKGGIHTAY TKTAGSVCLLMQVSMPSVLFASPSQLH LKGGTFKVAQDMATAAVRCIKKEIRDL YVNIQPVQEPKDQAFNGNGIII AETSTG CLF
1560	9611	A	251	986	1401	LEQGCNLFHLKHS*LGEVFFVFCFRSFT LVAQAGVKWGDLSL/HKLPSSLSLPSS WDYRHLPLRLA/NFFVFLVKMGFTVLA RMVSIS*PRDPPTSASQSAGIIGVSPRAGP VAGILMFCRWNISNPKGAVIEKKKKK

1561	9612	A	2510	29	1262	TKVSELLCGSQRLFFLPLWRRLCRCGLG PRVSPMAGPRVEVDGSIMEGGGQILRVS TALSCLLGLPLRVQKIRAGRSTPGLSMT *RPQHLSGLEMIRDLCDGQLEGAEIGSTE ITFTPEKIKGGIHTADTKTAGSVCLLMQV SMPCVLFASPSSELHLKGGTNAEMAPQI DYTMVVFKPIVEKFGFIFNCDIKTRGYYP KGGGEVIVRMSPVKQLNPINLTERGCVT KIYGRAFVAGVLPFKVAKDMAAAAVR CIRKEIRDLYVNIQPVQEPKDQAFNGN GIIIIAETSTGCLFAGSSLGKPGFNSDKVV IEAAEWLLANLRHGGTVDEYPARPSLI VFHGH*PNGVSRIKTGPVTLHTQT/API HFAEQIAKG*ILL*RNPEDEEDAIAKDTYI IECQIGIGMTNPNL
1562	9613	A	2512	900	1189	SQHFRPRRADHLSSGVQDQPGQRGKTP SLLKIQKLAGRGGSL*SQLPRRLRQEN RLNPGGGGCGSELRSRDCTPAWATEGNS VSCKKNK*KKKKK
1563	9614	A	2513	1710	2221	SPLLDVYFKTRLLSRGRREACTLRLNTI GTLSSHCPGLIQGPHPGPSGKTCGPFKPR GPGHSCPPDKKQVPTVLPPLPAPLRWA QAGLPYAGISGSPGRPLGAQAG*GSGV IGESNYFVHCMHPRGPGSPHL/PGG*GLQ PKPPRRLPSSSGSTTGLGDRKPCSYSQ
1564	9615	A	2514	205	295	GCNGNKDSCGPIAPSSGDILLTVKRSRP R*NFSPICAPCSSSSKRAMCSRVCSPWGL *CGPIAPSSGDILLTVKRSRPR
1565	9616	A	2515	1	927	
1566	9617	A	2516	932	1688	KGFKNPTFPCFIPAGQTHKPHHKNHSS PPVQKLKLQKMKKNEVYETFSYPESYS PTLPVSRRENNSPSNLPRPSFCMEEYQR AELVEDPILSARTPSPVHPSDFSEHNCQ PYYASDGVATYGSSSGALCLGNPRADSIH NTYSTDHASAAAPSVTRSPVENDGYIEE GSITKHPSTWSVEAVVLFLKQTDPLALC PLVDLFRSHEIDGKALLTHGVTVLPEAT WGVKLGTL*SLCYLH*PDLKQKGKCL
1567	9618	A	2517	3	179	
1568	9619	C	2518	140	490	MAWFHDMNPQSIALIPPATTEISADSQLP CIKDGSEGVKDVELVLPXSMFEDASVS EGRGTQIEENPLEENILAGEXASQTGDSG NEXANRGDGSVDSSQTPQTSSDWLEX XLX*
1569	9620	A	2519	194	405	KKILWKKIFWRGKQHLKLVTVVTTAAN RGDGSVDSSQTPQTSSDWLEQVHLV*TA HIWGSKWYRYSVC
1570	9621	A	252	303	551	QEGIKSCKSDENSGLAPGQHGETPSLLK VSKLAGYGGACP*SQLRRRLRQENCLN RDLGGGGCSEPRSCHCTPAWTTEQDSV

1571	9622	A	2520	1	2046	MRQNSGGNVHLPA AHLVLCGLVPNRPW TGKNK NKRHHLGCIPQPTLAKIAKAAK GSAGNFRYPLILGSFPANWVFMNFFQSK ATLDFNLICSLNVKDVAEVFQKWLKIEG KKCHCLSEKTKQNMGNNTTKFRKALIN GDENLACQIYENNPQLKESLDPNTSYGE PYQHNTPLHYAARHGMNKILGTFLGRD GNPNKRN VHNETS MHLLCMGPQIMISEG ALHPRLARPTEDDFRRADCLQMILKWK GAKLDQGEYERAAIDAVDNKKNTPLHY AAASGMKACVELLVKHGGDLFAENENK DTPCDAEKQHKKDLALNLESQMVFSSR DPEAEIEAEYAALDKREPYEGLRPQDL RRLK DMLIVETADMLQAPLFTAELLRA HDWDREKLL EAWMSNPENCCQSRGVQ MPTPPPSGYNAWDTLPSRTPRTTRSSVT SPDEISLSPGDLDTSLCDICMCSISVFEDP VDMPCGHDFCKGCWESFLNLKIQEGEA HNIFCPAYDCFLVPVDIIESVVSKEMDK RYLQFDIKAFVENNPAIKWCPTPGCDRA VRLTKQSGNTSGSDTSLFLLRAPAVDC GKGHLFCWECLGEAHEPCDCQOTWKNW LQKITEMKPEELVGVSEAYEDDRQ/CVC *VMN*TAKPCANCKSPIQKNEGCNHMQ CAKCKYDFCWICLEEWEKT
1572	9623	A	2522	2	119	ESTVSCCEKPTGAMP*MHTACGRPCPSI WRLTKLSMLR
1573	9624	A	2523	159	627	LGRMQDPQGGQMRWAYS LTFKADVCQ LGLSHYFAGAASGGCAQARCGPGRR* GPPAPVPSPLALPPMGT RKLHPGMWT ALH/VRIP/VPKGEVCVLIGEISCVLLQK ASWSEASTLCPAKGAIPNGAAFHQRCGR PEAHLGHRLSLAPPREP VET
1574	9625	A	2524	3	307	
1575	9626	A	2525	1053	2813	RTWEKAPEQADLTGGALDRSELSHSL MLPLERGWRKQKEGAAAPQPKVRLRQE VVSTAGPRRGQRIAPVRKLFAREKRPY GLGMVGRLTNR TYRKIDSFVKRQIEDM DDHRPFFTYWLT FVHSLVTILAVCIYGIA PVGFSQHETVDSVLRNRGVYENVKYVQ QENFWIGPSSEDLIHLGA*ISPCMRQDPQ GLSFIRSAREKHSACCVRNDRSGCVQ TSEEECSSTLAVVWKWPIHPSAPELAGH KRQFGSVCHQDPRVCDPSSDPHEWPE DITKWPICTKNSAGNHTNHPHMDCVITG RPCCIGTKGRYVCVPASAAGLWAQSIAL GCEITSREYCDFMRGYFHEEATLCSQVH CMDDVCGLLPFLNPEVPDQFYRLWLSLF LHAGQVTILHCLVSICFQMTVLRDLEK LAGWHRIAIYLLSGVTGNLASAIFLPYR AEVGPAGSQFGILACLFRGSSSRAGQIL GAALACLLQACWLWVLFHLWGLLP WDLTTFAHIFGSSVALFLSFAFLPYISFG KVRPVPETLPDHLSGGLPRASWLAWW SSSTSILSAVSRVSSSPASFTDKLL
1576	9627	A	2526	1	936	
1577	9628	A	2527	1	1023	
1578	9629	A	2528	157	512	LG*LQPPPPGFKRFSCSLSSSWDYRMRH HAWLIFVFLVEMGFTLISASRVAGITGM RHHAWLIFVF/CSR DG VSTCLGQAGSQT PDLKVICPLGPPKSAGITGVSHCSWPVIY VLSTLLHAVRNVLFRKTFPLKSSSFLSYD KEIFPILIGLKFYLVLTSTFVKGHILLK
1579	9630	C	2529	11	133	MFCSLQPTDLRKEXMNLQTLRLRSSNKH QRFPGLPRGLCD*

1580	9631	A	253	3	401	STFGFQGTGWETRWGPT*PGVSAWSLVP SPVLETPDLERKRAHLGVATAGGPAGP YRLSPHTLSSRKEGKGEAASKGTEAELM TIGIENSTCQSCLSFSFHYFWSPRGAGP KAMWLVGDRKGATKNDKRGY
1581	9632	A	2530	367	676	KVVTLIILILQRRKWGA/PGSDPKSPCCSD SKGQASFTAP*CSYLYTADGRLGLAWG* GLNRSAMTSNPDQTHLVAQTSKGPERK HKVSGFLVKVIPATAYDNG
1582	9633	C	2531	156	683	MKLRQRWRHPAHFSGTGKMIGEGTQVS VGTGVTVDTGVGCLSTSSHYANRNADT FRCLCRKRCORLLKSQRRGVKKSCISVP HRQLSQALQAMRDSSEPWALSISLRFRE DEALASKHYRRNAPRAALRQFLSDFHR DCLNVFKTKYHTLMYMGRTIMRCEPCA CGGEGKKNVLF*
1583	9634	A	2532	427	458	KNSQYTPLTLIQMMGF*FFVF/ERQSHSV VEAGVQSCSHGSLQPLPPGSSNPPTSASR VAGTTGAHHDDLIFLFL*RRGFALLHRL VSNSWRSRDSAWPSAFKWLGLWDVEA TTPRPLGFLSHLVAG
1584	9635	A	2533	57	463	ARTPLQGAGGLVLSRLLSLPLGLSPLPT VSCARWPLCPRPWSSLPGFWDSWHCNH RTGHRGTGPGGLDTQSA*VNKLIWGKGN HL*PQATAQLWPQLGGWQGWTRPS/RW WPLSSPHC*PGYRSLKDSFANTFLF
1585	9636	A	2534	3	469	RKTTTATMTSLCRKVNGGHAG*ETLRL LVVYPWTQRFFDSFGNLSSASAIMGNPK VKAHGKKVLTSLGDAIKHLDDLKGTF QLSELHCDKLHVDPENFKLLGNVLETVL AIHFGKEITPEVQASW/QEDGDWSGQSP VLQIPLSSLAMMQSCQG
1586	9637	A	2535	41	676	APSPRRPWGHFTEEDQGLLSTSLWCKV NVEKCWKEKTPGKGSVVYPWVQORFF DSFGNLSSAFHHGQTPKVKAHGKVK VLTFLGRCQQSTLDDLKGTFQAQLSELHC DKLHVDPENFKLLGNVLTVLAIHFGK EFTP/ERLQASWQKMGD*SGQCPVLQI PLSSLPMMQSFSRIRLLFLQAITNNKIS AKRSHMIFSSFFYIFLNI
1587	9638	A	2536	107	331	
1588	9639	A	2537	386	1074	NNPEWRTLIIYVDKENGEPTRVVAKDG LKLGSGPSIKALDGRSQVS/TPRFGKTF D/APHPALPKAT*KGFELSTGATEKSVK DPGDPLKQKNGPAFSGPKKMDLKKDCL KQKS/SVSWPSGLMPNPRNKTFFPLQIL LDF*GVFD/LCPEEHPDLRHLPLSGVPL MIPLTREREL*KSWFQLGPPFHLWKDGP LPPWGIPICLQFSFQGISVRTWGVADLPPV CCDIDI
1589	9640	A	2538	1	359	
1590	9641	A	2539	1	483	FQLEVTPQNITLNPFGGPPVFSWRDQAV LRQDGVVVTINKKRNLVVSVDDGGTFE VVLHRVWKGSSVHQDFLGFYVLDSDHRM SARTHGLLGQFFHPIGFEVSDIHPGSDPT KPDATMVG/LQKDYSKDPWHGAEVSCW FIHNNAGLIDGAYTDYIVPDIF
1591	9642	A	254	1833	2126	EKRKKRGFFKTKPLLKCPGPWGESRFW GPPKGSQV*G/HI*MGPNLGERWKKGP KRPKKPKTKGPPFGVHPPKRNPHLG/ WPGGPTLKKGKNNLGFC
1592	9643	A	2540	3	310	EVRLANSSQALRMWLDYGFVTPLTSM RGMAQQDGLKPTIDKPSSESPPLEMLGP RRTFVLSALQPSPTHSSNTQRLPDRVTG VDT*VVT*PYVLCWNLC
1593	9644	A	2541	1	1482	



1594	9645	A	2542	37	2885	SMDGAMGPRGLLLCMYLVSLILQAMP ALGSATGRSKSSEKRQAVDTAVDGVFIR SLKVNCKVTSRFAHYVVTQVNTANE AREVAFDLEIPKTAFISDFAVTADGNAFI GDIKDKVTAWKQYRKAAS*EKA\GLVR ASGRTEQFTIHLTVNPQSKVTFQLTYE EVLKRNMQYEIVIKVKPKQLVHHFEID VDIFEPQGISKLDAQASFLPKELAAQTIK KSFSGKKTSGSHSRRFQGHVLFRTVS QQQ
1595	9646	A	2543	159	1222	NNSGVMPMPEDMEQEEVNIP**GGFW VTGCHWGFLGRAVHKEFVQQNNL/WHA VGCGFRRARPKF*TG*ICWDSNAVHHII HDFQPHVIVHCAAERRPDVVENQPRCL PLQLNV\ DASGEF*AKGKAAACLSISPF YI*AQVVFV*WEPNPPYREEDIPAPLNL YGQTK\LDGRKGPWRNHLGAAVLRPI LYGEVEKLEKKCELLMFE*KCQFSQQS PAKQWIHWQARGSPPHMSKDVAPLCAR QLAEKRMLDP\SIKGT\HWSGNEQMT KYEKGMCQLPDA\FNLPSSHL/RDPITDSP VLGAQRPRNAQLDCSKLETLGIGQRTPF RIGIKESLWPFLIDKRWRQTVFH
1596	9647	A	2544	211	463	
1597	9648	A	2545	188	366	SCQSACQKNGKIILRLQLLGP*DRLEDTL LNTHGLLQSQILCQFCFLCTCQKVLRI K
1598	9649	A	2546	1257	1441	
1599	9650	B	2547	74	733	MAWKSGGASHSELIHNLKNGIHKTDKV FEVMLATDRSHYAKCNPYMDS PQSIGR VQLVVG DGRMGY AEEAPYDAIHVGAA APVVPQALIDQLKPGGRLILPVGPAGGN PNVGASIPGSRMASIQNEALWMGGDIRA L*
1600	9651	A	2548	45	972	TVQPHVSGSGGDGNSGYSYSGDASGAV TVWEVVSLGKLLGTVVALKVVLYLLR VCLAMAWKSGGASTSELIHNLKNGIHK TDK\VEVMLATDRSHY/SQKCNPYMDS PQIK*GFQATISCSTHCNAYALRNFLFWI QL\HEGSLKLF\DVSGGWESLLACFAR MVG\CTGK\VIG\DAH*RS**DDSVKLMF REGTIPTLLSFRGGVQLVCGGMGRMGY AEEAPYDAIHVGAAAPVVPQALIDQLK PGGRLILPVGPAGGNQMLEQYDKLQDG SIKMKPLMGVIYVPLTDKEKQWSSGMI VKATSA
1601	9652	A	2549	2	478	
1602	9653	A	255	70	380	YSNNPKDRKGETGINEKTNNKMVDLSS YTSVITLNF*ML*/D/KIN*KFVKSP*KKPT LCCLLETYFKYGIGGLKVKRWRI*HAH TIGKKT\LVAILTKHTSELS
1603	9654	A	2550	392	1245	CTFTKVFLLLRIWYRNMLLKNSVTPLPS CHPSAQCLGTLMRALSQVFRDAW/WWV ASVDVVENEEASASHVKMTDSFTEQAD QVTAEVGKLLGEEKVDA\LCVAGGWA GGNAKSKSLFKN\CDLMWEAEHYWTS HLPSH\ALT\KHLKEGGL\TLGAKAA LDGTPGMIGYGMAKGA\HQLCQSLAGK NSGMPP\GAAAIAALPV\TLDTPMNRKS\ MPEVADFSSW\TPL*FLVETFDWITGKNR PSS\GSLIQV\VTTEG\TELTPAIFLGLISV PMRWPAQKSH
1604	9655	C	2551	60	266	MSWLSCLSNITVWNISPVLLSFFGGNSLI SHLXKIPEEPFLTPLLSSSPSGFXPHVPR VLRSQSATV*
1605	9656	A	2552	1	513	

1606	9657	A	2553	345	2343	LLGHEEQTRKGKRKAKAAGMVLSQLL TFRDNEAIEFSQEEWKCLDPAQRTLYRDV MLENYRNVLVSLGIFSKCEIKELPPKKESN KEYSRQ*CWKDMKSHRHTKIFCFRETQ KNVHDSQCLWKHD*RHYKRVRVITYKG KSH/CVEETMPG*KG*CHKSQPC*KSSLG LNPAVT/CLPRTCQIPISKPEGKIYKYDHM EKSVNSSSLVSPQORISSTVKTHISHTYEC NFVDSLFTQKEKANIGTEHYKCSERGKA FHQGLHFTIHQIHTKETQFKCDICGKIFN KKSNLASHQRIHTGEKPYKCNECGKVVFH NMSHLAQHRRHTGEKPYKCNECGKVVF NQISHLAQHRIHTGEKPYKCNECGKVVF HQISHLAQHRTIHTGEKPYECNCKGKVVF SRNSYLVQHLIHTGEKPYRCNVCGKVVF HHISHLAQHRIHTGEKPYKCNECGKVVF SHKSSLVNHWRHTGEKPYKCNECGKVVF SHKSSLVNHWRHTGEKPYKCNECGKVVF SRNSYLAQHLLIHAGEKPYKCDECDKAF SRNSHLVQHRIHTGEKPYKCDECGKV FSQNSYLAYHWRIHTGEKAYRCNECGK VFGLSFLAHDPIHTGEKPFKCNECGK AFSMRSSLTNHQLRHTGEKHFKCNECG KLFRDNSYLVHRHQRHFAGKKS
1607	9658	A	2554	3	517	STRTQNVLGEKGRRIRELTAVVQKRFGF PAESLRYKLLGGLAVRRACYGVLRFIM ESGAK/GCEVVVSGKLRGQRAKSMKFV DGLMIHSGDPVNYVDTAVRHVLLRQG VLGIKVKIMLPWDPTGKIGPKKPLPDHV SIVEPKDEILPTTPISEQKGNAEPPAMPQ PVPTA
1608	9659	A	2555	3	495	
1609	9660	A	2556	24	861	INPPPPRLSFQSAARWPVQISKRRKF VANGILSKLNLNEFLVRELVAEDGYSGV VEVRVTPTRNRKSFIFSHQHRMVLGEK GRRIRVLPVAVVQKSFQFPRGAARELY A*KRWPT*/RGLCAICPGQSLCVYKPS*G GLAVRRAL/CYGVLRGSFIGEVGPKGCE VCGCLGKLRGQRA*NP*SFVDGLMNH GDPVNYVDT*VRHVLLRQGVVLGIKV KIMLAWDPTGKIGPKKPLPDHVSIVEP/ RRDEILPTTPISEQKGKPEPPAMPQPV TA
1610	9661	A	2557	116	718	IFLQAGCLKLVIRSKAGDISHVDTHCQTV HPKAVSISTMTENTPFLTLSPALSPFN PFQIEK*YLILTLIFLIAVEVESLCL*SVF LIYKIFL*PLSNFCCL*V/LLYIILNLLFY MYFPTPLFMKSNFIKVL*KVKGFTF*KCS QIYLFHGYWVLCGLGWECLSYTFITIFFQ YFLLVIFNFHV*FILIFFIHDMDK
1611	9662	A	2558	88	811	GSGGNHVSCCDTMEGGGGSGDKTTGVL AGFFGAGGAGYSHADLAGVPLTRMNPL CPYALNVDPYLVQGYKMFIFITPELIK TRGQDLKLAFFTIGGCCMTGAAGFAMN GLRLGLKETQNMASKPRNVQILNNG *LGKALWANTLGLWALLYSAFGVII EKTRGAEDDLNTVAAGTPAGLLYTCTG GLRGIAARGGLTGLTSLSLCTIYNTWG AHGKGLASNSSLWKVFAQPP
1612	9663	A	2559	1	210	VIIRLPKIGKLFRCRPG*TWAPPIL*SGR PRSSSSSPF*N*MHFLFERESSFHRCKWK AGITCVKSWYP
1613	9664	A	256	225	353	RWGFTQLRLRQENHLNRGVGGCSEP RLCTPAWATE*DSVL

1614	9665	A	2560	128	687	THVLWAFPGARVHLQTGWSRAGVAAA ALALGGQASLSYARGKES*GHSPPTHT HKAASGGREKAVSPSVAVVSHGSPSLLS EYTSSQVKHSGPGDPVVTHL/WAPFP DQLPPSPCPLSRKEPEPSPLSHPPQGVTP GQAQIGQLRTSLWGHKRGGWARAEG APVSLLLRGPFDPATVSEAQR
1615	9666	A	2561	246	410	.
1616	9667	A	2562	1	414	AWHEETHKVDLGLPEKKKNKKVVKEPE TRYSVLNDDYFADVSPLRATSPSKSVA HGQAPEMPLVKKKKKKKKVSAALGKE VKRSQSKLRLRNTSP*VMTLRPPQKRK*S PKRR*SSQSSRSQL*KGRKRRRGKRG
1617	9668	A	2563	198	531	RNNPLLSLLALCLVHSSHLCWALPDEG GGQGKERALNSRKIATFFLSSQGTQFGQ WDTAGFENEDQKLKFLRLMGGFKNLSP SFSRPASTIARPHMALGKKAADSLQQNL
1618	9669	A	2564	190	510	
1619	9670	A	2565	1	1977	MEVDFKIRKVGQWTITLQEHVSVLLFIE ETHPENKPTSTAVEESHISRDVTMVNFQ CQLDWSKGYLEAYLTKINSICSHRFLLD GSVTCHDETGSRRDARDTVGTGVRVND ESVEQLGLRRTMWLGICRGAAMAAVST VTAFAGRPRPGSRNPRGWAGDSK WTS GSRRSWLSRGGGEISPTGMITKTHFVYL GLPEKKKKKRVVKEPETRYSVLNDDY FADVSPLRATSPS*DV AHGQAPEMPLVK KKKKKKKGVSTLCEEHVEPETTLPARRT EKSPSLRKQVFGHLEFLRGKRKNKKSPL AMSHASGVKTSQDPRQGEETR VGKKV SKKHKKKKGGPGPHSLAPVQDPWFCEA REARDVGDTCVGGKDEEQAAALGQKRK RKSPREHNGKVKKKKKIHQEGDALPGH SKPSRSMESPRKGSKKPKVKEAPEYIP ISDDPKASAKKKMKSKKKVEQPVIEEPA LKRKKKKKRKESGVAGDPWKEVVPSE MDFAVGELRETDTDLEVVEKKGNMDE AHIDQVRRKALQEEIDRESGKTEASETR KWTGTQFGQWDTAGFENEDQKLKFLRL MGGFKNLSPSFSRPASTIARPNMALGKK AADSLQQNLQRDYDRAMSWKYSRGAG LGFSTAPNKIFYIDRNASKSVKLED
1620	9671	A	2566	1781	2148	VRRFAAAVATLPPGAAPSG/PAPGT/PGP QTRIPGFPPWPLCPLMSGSLGP*TRLLLV PPAPQGPAGSPGPIQAGRGLAAPPQPLS PSRGPCAGSSWELRLEGLSDWGTCPVPC PCHYIHPPKN
1621	9672	A	2567	1	345	
1622	9673	A	2568	1	582	SGRALHASWAAGGVGAYSGRLRSDALE GESFALLSFSSASDAEFDAVVGYLEDIIM DDEFQLLQRNFMKYLLAEFEDTEENKLI YTPWFNEYISLVEKYIEEQLLQRNPEFNM AAFTTTTLQH/HIRDEVAWVTIFGNAGST FHKIFLGF*RKCFLDYRAEKESRGLDLS SGLVVTSLCKSSSLPASQNNLRH
1623	9674	A	2569	2	705	GSVGAATVRPQPNALRCRLRSRAGRSPV LVFGVGIKQPPCPSKKAKTKTTKRKPQR ATSNVFMFDQSQIQGVQRGPFNMIDQ NRDGFHSDK/EKVLHDMLASLGKNPH* WHYLDAMMNEGPKGPFKHQCSLTMF WLRKLNGVTRSPEDCHPETAFCFAFD*KK ATGTHFRKDYLRSC*PTHGGIRFPD/ER EVDELYRGGTLLDQKKGNFQITFEHTA SWKHGSQRPKMT
1624	9675	A	257	238	512	HMYVPNLRTSKYMKRTLIELKGEIDSNTI LVGDFNTLSTMGRTFR*DISKETEDLHN TVDPMDLTD/SAELSTQQQNTLSSQAH GIFSRTE

1625	9676	A	2570	1006	1022	TRNSFLFFIYIYLFRLMGSCSVAQGWKCS GTILGHCSLCLRLPGSSNSPTSASHVAG D/SHGMCRRHARLIFALVEMGFHPCWP GLGLELLTLRVIHPTLGLPKCWGL*AGG SAKIGRRAQIG
1626	9677	A	2571	668	863	TFCFFSDLKYSLASCENHLVCFLVCFAP LV*T*NYFCL*TVNLNFSVRVTELCPPIFI VLIIT
1627	9678	A	2573	258	579	FKQICLFLLLFFEMESCSVTRLECSGTIS AHCNLHLPAGSSDSPASASPVGTGTCH HAQLIFLYFYMTGFRHVAQVGVLLG *AIHLPWLPKVLGLQAPAPDL
1628	9679	A	2574	157	371	
1629	9680	A	2575	1	1431	MHKAGLLGLCARAWNSVRMASSGMTR RDPLANKVALVTASTDGIGFAIARRLAQ DGAHVVVSSRKQONVDQAVATLQEGEL SVTGTVCHVGKAEDRERLVATAVKLHG GIDILVSNAAVNPPFGSIMDVTEEVWDK TLDINVKAPALMTKAVVPEMEKRGGGS VVIVSSIAAFSPSPGFSPYNVSKTALLGLN NTLAIELAPRNIRVNC/LAPGLIKTSFSRM LGEPEDCAGIVSFLCSEDASYITGETVVN LSVMFTGGGVCRAASWKEGGTGTPRTP RESPRQREPGETSSTDQENKVWNLPA NPQRPAAGPVRRTKNKQKGIATSADK SINIRTGKDIHTKTPSIGHQHQRPKVDKT TKMERNQSKKAETSRNQNVSSLPKEYKS SPAREQNW MENKFDDLTDVSFRRSVITN YTQLKEHVLTHCKEAKNLDKMLNEWLT RMKNLEKSLNDLMELITTVQELHEGYTS FNS
1630	9681	A	2576	201	398	
1631	9682	A	2577	195	434	
1632	9683	A	2578	150	284	
1633	9684	A	2579	1	625	MHKARLRGH CARAGKSVRLASSGMTRR DPLTNKVALVTASTDWIGFAVAQRLAQ DGAHVVVSSRKQONVDQAVATLQEGEL LSMTGTVCHVGKMKDWERLVATGFSKY NVSKTALLGLAQTLPIELAPRNIRVNC APGLIKTSFSRMLWMDKEKEESMKEVTL RIKKV*ASPEDCAGIVSFLCSEDASLHSL GKTVVVDGIGTPSRL
1634	9685	A	258	167	408	DRRITRSGVRDQPGQHGETPSLLKIEK/L AGHG/GQAPVCGGRSYLRRLRQENRLNP GGRGCSEPRLRHCTPA*VTVRDSVS
1635	9686	A	2580	84	1413	ARKSVRMASRMTRRDPLTNKVALETA STDGIGFAIARRLAQDRAHVVISRKQQ NVDQAVATLQEGELSVTGTVCHVGKA EDRGAAWWPPAVKLHGGIDILVSNAAV NPPFGSIMDVTEEVWDKTLINVKGPK P*MTKAVVPEMEKRGGGSVVIVSSIAAF SPSPGFSPYNVSKTALLGLTKLAIKLAP RNIRVNCLAPGLIKTSFSRMLWMDKEK EESMKETLRVRLGEPEDCAGIVSFLCSE DASYITGETVVNLSVMFTGGGVCRAAS WKEGGTGTPRTPRESPRQREPGENQARS SPRMALRPEFPESASTSWMGPEPVGNR ERPCKPARKVGASPRALRRLGSATRMLS RAALRAGVGARAPRPGGGRGAHATATV WSGLASAAALTARALLKRSLACAAAPQ RCGWRRLLCSSLGIRGSGWPCPPWSSI
1636	9687	A	2581	1	560	MVYRQNQLPSSCAPEMGREDGLRALHP AQPPPPRAQQSPPPPLSA/PEPPPPRAQQ SPPPPLLTPHRRHPQSFPAPSAPSALSQR PGLYSAVTFSGSLSGPRTSTCTPSPASSPS AHGLGHIHTDAGVCSLEAQEEAKAPGG RGPSCSAHGALGPTCTSGVAGDSGPVVG SQERALDPRRQGLQH

1637	9688	A	2582	775	1408	TIPVAYVWADPPLPPKGHSCPHPPGSD/D GTRTTGTA/PPCLGFQGDPPVHPAPAPP DW**FPNMGQPGPPPPFTWRAQLQLLK SSVNMGRHRWRNVPSGPHLPEQISLSEL GHSHKPLFLRQNPNTVPWDVMLPFPLL NLLYGKMWNWVSLDLWGCHRNEEWRP TNILLAPWRHGRQLQLKGAGARGRQLPQ LLLPALLLILVGYEMSF
1638	9689	A	2583	3	560	GVPPKSASKFLCTRNGKGRWAQSPPPST A/PPRAQQSPPPPLSAQK/KPPPPRAQQS PPPPLLTPHRRHPQSFPAPSAPSALSQRQ GLYSAVTFSGSLSGPRTSTCTPSPASSPSA HGLGHIHTDAGVCSLEAQEEAKAPGGR GPSCSAHGALGPTCTSGVAGDSGPVVG QERALDPRRQGLQH
1639	9690	A	2584	189	608	AFLTENKHLHRTDTCRGNKPHPPPPGSK VRKRTWGFAPPGGSPWASLPHGLPPTA GRQGRGR/EGGGPRGGPGKGSAPSSGT RAWRKPMGGCLTEDGPYGGPKGLWP*T TNG*K/PPGARWPPLPLGCPLEPRHPVL GP
1640	9691	A	2585	2	847	LKMAAEEPHQQKQEPGLSDSEGVNCLA YDEAIMAQDRIQQEIAVQNPLVSERL LSVLYKEYAEDDNIYQQIKDLHKYSY IRKTRANDGNCFYSGFRILPLGRHCWDDS KELQRFKAVS/WPRARVDLGCSQ/WGFT *ISQF*GIFHNKFHGT*LSRWRKQTSVAD LLASFNDQSTSDYLVVYLRLLTSGYLQ RESKFFEHFIEGGRTVKEFCQEQVEPMW KESDHIHIMALAQGLNGAIQGEDMDRG EGGTTNPHIFPEGSEPKGYLLYRPGHYDI LYK
1641	9692	A	2586	468	1191	DVSRVGCPLPPSRAMGWTLALLRRGSAV SALASGLVEEPMGLPPFHTPRFKAVSA KSKEDLVSQGFTEFTIEDFHNTFMDLIEQ VEKQTSVADLLASFNDQSTSDYLVGYLR LLTSGLL*GPRASSSTSSKGGRCDFKEF CQ/QELEPM*KESDHHSHHCAGPGPSAC PSRVGVHGTAAEGGNHQSALSLRASEP KVYLLYRPGHYDILYKIGLGSSPLLCCP PLPGARHVTEVFLWL
1642	9693	A	2587	1	326	HSVNRKRLNRNARRKAAPRIE/CVRGLG FRVAVGLGRDGRDDGSAMSLFAGSSHI RHAWDHAKSVRQNLAEMLAVDPNRA VPLRKRKVLTWQGLGPCLLYSSPAILT
1643	9694	A	2588	879	1528	AAGAVVSAMPAKAGKTR*QKFGYSTL RKRMSRNARRKAA/RAGLECSHIRHAW DHAKSVRQNLA*MGLA/VDPNRA/VPSR KRKVKAME/VDIEEA*KNL YRKP YVLN DLEAEPSPLEKKGNTL/SRDLHLMYRY MV/ENHGEADYKAIARD/ENY/ QDTPK QISELSNVYKRFYPAEWQDFLDSLQK RKMEVKVPGLHHSCPSAEASPGPSEAG
1644	9695	A	2589	1	310	
1645	9696	A	259	660	1200	LTVGKKNRKQQQHQPSPHGKPHLKGQ QPSKVQIEDKFLGR*GKELKNPFTTQKG QSGFVYSKLIHNTSYRQGHSPGWRLRW MN*QK*ASEGG**QTSLS*RSTL*PNILER IPELKDWFISKIRQK*KRIKRKEENLQ*V WGYI*RPILQITGIPERRVEISMHWVRAC SFSSVKFVIP
1646	9697	A	2590	1	716	SALQRLEKKPKRPPERSPRPRWVPEPQL EVGGACSAQAQSPSEKLDPACLKPLS*S* IRRRRPTPAMLFRLSEHSSPEEEASPHQR ASGEGHHLKSKRPNPCAYTPPSLKAVQR IAESHLQSYSAILNENQGFGRGREDLGE FWELGYPREDEEEEEDEEEEEEDSQ AEVLK VIRQSAGQKTTGQGLEGPWERP PPLDESERDGGSEDQVEDPALSEPGEPO

						RPSSEPGT
1647	9698	A	2591	39	370	RGWSLVQTPNPRFKNVPGPTPQVIAEC EESQCGGLGTLGGL*LSPGP*G*TDSRGPP MMPSEAQGGGAASKGPLGPPQAAGIHQ GTPLRMGEALEGQAGQTAGPRVQDGL
1648	9699	A	2592	229	358	
1649	9700	A	2593	257	386	
1650	9701	A	2594	217	398	KAWWNLLRKSEPKSCGS*GGLSTSRL VECSSLGLGYCG**LCHLQEPHYGSLH RMSS
1651	9702	A	2595	1	3386	
1652	9703	A	2596	442	2093	CGFLQMGTVINHNIPGPEGYWHFHFNF KALLARAAVGAARGIHIHRCGLTKRPDA RRRRVAGAAGREPAISLPGDRAAGARAT RTRGPGPAPKMPAIAVLAaaaaaWCFL QVESRHLDALAGGAGPNHGNFLDNDQ WLSTVSQYDRDKYWNRFREVEDDYF RNWNPNKPFQDALDPKDPCLKVKCS HKVVCVTQDYQTALCVSRKHLLPRKE WGTWAKHGWGLDL*ILVKICKPCPVAA QSAMVCGSRWATPNSIPCKLEFHACS TGQK/SFATLCDGAPCPCSSQSLEPPKHG RKGVPCDTELRLASRLKDWFGALHE DANRVIKPTSSNTAQGRFDTSLPICKDSL GWMFNKLDNMNYDLLDPSEINAIYLDK YEPCKPLFNSCDSFKDGKPLNNEWCLL PSQNPGLP/CAQNEMNRIQKLSKGKSL LGAFIPRCNEEGYYKATQCHGSTQCW CVDKYGNELAGSRKQGAVSCEEEQETS GDFGSGGSVLLDDLEYERELGPKDKEG KLRVHTRAVTEDEDEDDKEDEVGYI W
1653	9704	A	2597	1	844	LHQQAAVWLPTSFLPSQEHCCSTEW APQPAASGVHGICFA/RPFASSTVSTVS GSFCYLPAPWVYGFL*TERPLAWWCL GKYWLQELLGCHPVPLAML*DCLALLK SSLVPMGSPTHCKAIVTEPLHLPEAAA AAHTSSPSSCRCKGCLGWVWPGGSAP GPLGPLSFDPTVSHQSGPSAAPGPTTS SS*RPSAPSHGMQGLADSQGHLCRHSRK GLRSFLLSHTHHSTCPHLLQTGMPSPL ISIDADSSPPRIHRLRGQGHFSGLAKGGQ R
1654	9705	A	26	238	446	GFVVSLDSR*QWESRSSIHAIVTN*ASS SSSSSSSSVSRIVYPRFIEYLHKDIQSTG QKSPDAWVAGG
1655	9706	A	260	1	680	EQCRSPARARLQPQDPASTEAEERTYP GSIGAPAGEGKVPGLVIYLLWPWQND ALSCLPSEAYSLSRQHGLPLAVNTMSAG GGRAFAWQVFPMPPTCRVYGTVAHQD GHLLVLGGCGRAGLPLDTAETLDMASH TWVALAPLPTARAGAAAVLKGQVLVV GGVDEVQSPVAAVEAFMLDEGRWERR ATLPQAAMGVATVERDGMVYVSGGNG P*HGPPGPGT
1656	9707	A	2602	144	520	IGKEEIKLLLFPDNLMEYTVNF*MYKPLE LIS*FSKVTEYQVNTK/SNCIYT*QLQIE NEIAKTI*FMIAKSIKYLEISLTKCNKW RDILCICIGRLSIHKVLVLPKLMCGGEKIF NPNPTGFW

1657	9708	A	2603	105	440	RSTDPVCLGIRSSGCRTADFREP*MLLS DRSSGSFVSEYPAV*SVSLPLLGECLPV RLLRDGHWS*HDSOSS*VFKMADNFPA GFHRLGRSGDGRAEHRRCCLASQRCC
1658	9709	A	2604	1	1047	
1659	9710	A	2605	1	690	
1660	9711	A	2606	210	424	
1661	9712	A	2607	651	835	PRWSRFPDLVICPPRPPKVLGLQA*AIVC ASISITKMWLRNAGLTSSMNWPRRSARY LSVS
1662	9713	A	2608	198	755	
1663	9714	A	2609	1	1305	MMRAHAPPTAVPACTAPRAPPPRDHRA GIAREALGRTGRSGFRDCLGTREVALQA REKAQAAAQGEAGCSAHWVRHTRGA APEGRPRVPRAAGVLTGCTVFRRTWIQR DAQIQARQERWAKGESGPWGLRGLAT QPAVRASGRRGRRRLERQDILEVFRCLAA SWNGGFGAVKPPEVADARSGLSGDSF CLVSVSLTKAKKGLELKQNLIEELRKC VDTYKYLFI FSVANMRNSKLKDIRNAW KHSRMFFGKNKVMVALGRSPSDEYK DNLHQVSKRLARGEVGLLFTNRKKEVN EWFTKYTEM DYARAGNKEGFHC*AWD PGPLEQFPHSMEPQLRQLGLPTALKRG VVVTLSDYEVCKEGDVADPRARASRS* KLFGVMRWLNFKVTIPNYMWDSSQGRF QQIGKTDLPESAIEFPEESDSEDDDD
1664	9715	A	261	1	403	RTRGQLNRGVYGP RRSLVSPSTLAGAPL AGRLDETS GEEQTLTLCGGKMSGPTQPP AEGTEGTAPCGGAPVPPNMTSNRRLLQ TKAQVEEVDIIPVNGDNVLRDHLRE LDDRS/DALQARA*PFESSAAS
1665	9716	A	2610	319	632	GEPNIGMSLPWGGPSGSTGMPAPAMPL PAMTPQC/C*GQGPV/GPCAS/CASA/CFR CGL*AGRFC/G/PCPGHC*CFYFSNSVFPN VECMGLREPAVLPAFHLGEEAGRISGQ GRSQNLPA
1666	9717	A	2611	156	621	LHVPMELOSHSKDEVSP TYLGMSLPGVA PLGSTGDASPC HAPPRPWT PQCSKGQGP CCAP/WCP/CCP/CPPCPWSHGCL*LLCDP CPPPALPAAEGQQPLCKLASAVSGVVS LGNFATCPWPLLMRPASSPRWKAGRTA GSLRPIHSTLGNTFEK
1667	9718	A	2612	1	585	
1668	9719	A	2613	1	1047	
1669	9720	A	2614	1	1674	MRSQGEVRRYLKRQSCRFLGSREKDM VTPSASSVCLIDEQIPAAGESYDIIDPRSK HKFKIHTYGSPTFC DHCGSLLYGLIHQ MKCDTCDMNVHKQCVINVPSLCGMDH TEKRGRIYLKAEVADEKLHVTGKACSSR SSIVGRHLDEGYTDIKAGQLDAFLCISS QPPFGKNAIHTSSSSSIITLLKHGPRRFYSF ASCSCMSSTVSVTNPKILGKGFIDSVWV TCHPGPMDCDWRADMGWGPVRLCIWF S

1670	9721	A	2615	3	2089	RPQLPGGGKRWLGGMADVFPNDSTA SQDVANRFARKGALRQKNVHEVKDHKF IARFFKQPTFCSHCTDFIWGFGKQGFQCC VCCFVVKRCHEFVTFSCPGCG*GDPTL DDPRRQATRFKIHTYGSPTFCDH/CVGS LLYGLIHQGMKCDTCDMNVHKQCVLN VPSLCGMVHTEKRGRIYLKAEVADEKL HVTVRDAKNLIPMDPNGLSDPYVKLKI PDPKINESKQKTKTIRSTLNPQWNESTF KLKPSDKDRRLSVEIWDWDRTRNDFM GSLSGVSELMKMPASGWYKLLNQEEG EYYNVPIPEGDEEGNMELRQKFEKAKLG PAGNKVISPEDRKQPSNNLDRVKLTDF NFLMVLGKGSFGKVMLADRKGTEELYA IKILKDVVIQDDVECTMVEKRVLALL DKPPFLTQLHSCFQTVDRLYFVMEYVNG GDLMYHIQVVGKFEQAVFYAAEISIG LFLHKGRIYRDLKLDTVMLDSEGHK IADFGDVQGN*WDGSHGPGTFCGTPD YIAPEIIAYQPYGKSVDDWAYGVLLYE MLAGQPPFDGEDELFQSIMEHNVSY KSLSKEAVSICKGLMTKHPAKRMGCGPE GERDVREHAFFRRIDWEKLENREIQPPFK PKVCGKGAENFDKFFTRGQPVLTTPDQL VIANIDQSDFEFSGSYVNPQFVHPIQSAV
1671	9722	A	2616	1	1136	MTQISNIKQPFAMQHRFFISLLHWTLQIV YPALFLGLCERGRNGRCDQVPEGSVLSL LVWVVPGLAFPEVAPGTCGTSYVPDAQ LHGPEVESKLGDPGSMGTGTPTPTPAQ PAAAEPPALTGPGRVHQEQAVLACGFLG IYHLGAASALCRHGKLVKDVKAFA SAGSLVASVLLTAPEKIECNQFTYKFAE EIRRQSFQAVTPGYDFMARLRSGMESILP PSAHELAQNRLHVSITNAKTRENHLVST FSSREDLIKVLLASSFVPIYAGLKLVEYK GQKWVDGGLTNALPNLPVGRVTISPF GRDISPQDKGQLDLYVNIQDQIMLSL ANLVRLNQALFPPSKRKMESLYQCGFD DTVKFLLENWFE
1672	9723	A	2617	118	1018	VTARPRASRLKGLVQHGSVPGLHCATA RMKHINLSFAACGFLGIYHLGAASALCR HGKLVKDVKAFAFAGASAGSLVASVLLT AP/EKKLEECNQFTYKFSSEEIRRSFGA VTPGYDFMARLRSGMESVLPSPAHELA QNRLHVSITNAKTRENHLVSHFFSSRED PQLRSLSPASFVPIYART*SLVEYKIGQ KWVDGGLTNALPHPCPVGRVTISPFSG RLDISPQDKGQLRSVCLISAKQDQIMLSL ANLVRLNQALFPPSKRKMESLYQCGFD DTVKFLLENWFGIKCIKVL
1673	9724	A	2618	60	388	GLDSFSATETRRTHNTPEHSQSQEPSNG EPQKEEPAAESRDPTPGQQTEDQDTAEI PVRDMEGDLQELASVKHRG*ILDGSSV KVKIIPKEEHCKMPEAGEEQPV
1674	9725	A	2619	1	4123	
1675	9726	A	262	72	276	AIQFSVYICVPGICISPDREKRDRGKDG GRHRTRWRQGE*KGEVGRERRRGRER DRQRDRDRIYSPD
1676	9727	A	2620	71	547	KQIPSLPISRPVLAVMVTMTLKVGA MLFIQSVVNSPSCSSERTTVYFWPPSV SPFMTKLDQSLPTRTPTAGVMLRKVFP PTSREKPTCFSSNA*KELP*GWQESGCSR QCPLSSRETCRASCINESANARGEAVCV LGARVVFLTSETGNS
1677	9728	A	2621	241	452	ENVMLCIRAKEKNHMITLSYTVKAFGK LKTFFMIYKNKPQKTLMSIRREGNTFNPI KGRFEKNS/AGNIILNGIGLNAF/PIKSEK VEYLLFFQFSIILEI*INAIK*EK*IKGRFE KNSEVTLY



1678	9729	A	2622	1014	1432	SARLSLPKCWDYRREPPCPASFLYLKNI LYIIRAKEKNRMITLSYTVKAFGKIENFF MIYNNKPQKMLYMMRTEGNTSNPIKGR FEEPTGNIILNRHKIGCFSIKSEKKVEYLL LLF*FSIILEL*VNAIK*EKLIK
1679	9730	A	2623	55	316	NFWGGGAPKAPPPKKGFFPKIPRGVLNR PPQKEKKLFFPPPVKLGPDKFLKRAPP* TPKFFFFPKP/YKFLGGGGPKSPPPKKR VFSQNPGRGFKSPPPKRKKIIFPPPRKIGPP QGFFKKGPPPLFIFFCLFPAFMETTCCPSK SLSKKFTTK
1680	9731	A	2625	1	963	PTRPNNFHSHPHTSPAAGVSAALRCSGR RSLEVATSLPHSPGPRPAADVKMSSSEE VSWISWFCGLRGNEFFCEVDYHPGT NFNLTDLNKQVPVHYRTSSK*SLDPEPD VEELVEDNPNQSDLEQAAEMLLWDLIH ARYIPLPTRHRPRCLGKVPKGDGFGYC VPRVYCENPANCPIGLSDIPGEAHGESS YCPQ/CAMDV*HTPSQSRQPSTRMGA*L RATGFPSHGSFMVAIPELPGKRAQPSF VA/RGFLRGFKIHVPMAYPAGSFQGRPAT FKKPQFKTDSLIPSPTCPAVFCLFSLPT LSGTLYGF
1681	9732	B	2626	44	403	MKALILVGGYGTRLRPLTLSTPKPLVDF CNKPILLHQVEALAAAGVDHVLAVSYM SQVLEKEMKAQEQLGIRISMSHEEEPL GTAGPLALARDLLSETADPFFVLNSDVIC EFPFQAM*
1682	9733	A	2627	159	309	IGPSLALGSKVFLQKKQSLLFIRCWLQA LQDLWPQGWNTAEMGWA*QMG
1683	9734	A	2628	545	2302	AACAPSPRTESSTVSSLPLQCELLGAMK ALILVGGYGTRLRS/LTLSTPKPLVDFCN KPILLHQVEALAAAGVDHVLAVSYMSQ VLEKEMKAQEQLGIRISMSHEEEPLGT AGPLALARDLLSETADPFFVLNSDVICDF PFQAMVQFHRHHGQEGSILVTKVEEPSK YGVVVCEADTGRIHRFVEKPQVFSNKI NAGMYILSPAVLQRIQLQPTSIEKEVFPI MAKEGQLYAMELQGFWM DIGQPKDFT GMCLFLQSLRQKQPERLCSGPGIVGNVL VDPSARIGQNC SIGPNVSLGPGVVVEDG VCIRRCTVLRDARIRSHSWQESCIGSGG SWKLLTIDQDLMVAQFSTPSLPPTLKVG FLPSAGKEQSVLWVSL EEAEPIDHWGI RVLQPPPRARECAEVRMENVTLGEDVI VNDELAYLNGASVLPKHSIGESVPEPIIH DGGFAEEAVLVVHQVLVDGTSTTGEGM RTALHVPTALPTTKLWGPLLADLWAQG WDTAEMGGGSCCLGRCRGQVRQDLFQ LGQLIGTDIIRIWGVVGSVKSEVAEDVMP LEYSQPTTLLFLRLLTRPSRFP
1684	9735	A	2629	124	1315	RARGRARRWECAAGTGQAGCRHLRAR DTPSTSAGAMKALILVGGYGTRLRPLTL STPKPLVDFCNKPILLHQVEALAAAGVD HVLAVSYMSQVLEKEMKAQEQL*IRIS MSHEEEPLGTGVLPLARDLLSETADPF FVLNSDVICDFPFQAMVQFHRHHGQEGS ILVTKVEEPSKYGVVVCEADTGRIHRFV EKPQVFSNKNAGMYILSPAVLRRQLQ PTSIEKEDLPIMGKEGQLYAMELQGFWM DIGQPKDFTGMCLFLQSLRQKQPERLC SGPGIVGNVLVDPSARIGQNC SIGPNVSL GPGVVVEDGVCIRRCTVLRDARIRSHSW VLESCIVGWRCRVGQWVRMENVTLGE DVIVNDELAYLNGASVLPKHSIGESVPEP RIIM
1685	9736	A	263	166	396	PQIPPPPGIPRKRENLSREPGG/PNPWGG* A*FPLLEKFLGKKNLGPFGGGPTFPFPF NPNLLGGPKGGDQKAGKKP

1686	9737	B	2630	162	276	MGRANESLNVLIVYHFLQKGVQCRL QLVQVVLQHLLX*
1687	9738	A	2631	2	292	
1688	9739	A	2632	3	2111	SSCGLGGQHGLGAARVRSLFKEARARA PCIVYIDEIDAAGKKRSTTMFGFSNTEEE QTLNQLLVEMDVFYAKIEELKLVNRRAE TGVSLSRCSTQK*KS*NWCILITVFYAAIE ELKLMYPYHGVLCSSRRKLSSCSNKEMT QSEKSQA*YRMTPLGMGTTDHVIVLAST NRADILDGALMRPGRDRHVFIDLPTLQ RKGVALSPLRLECSAAITHCGLNLQGS* GARTTMGVRRRAG*FLTESRCVAKAGV QAASAHCNHHLPGA/RKIFEQHLKSLK LTQSSTFYSQLAELTPGFSGADIANICN EAALHAAREGHTSVHTLNFEYAVERV AGPHGFQLWESSGFLPEEWGQLLCQTLQ NTPGFSPTALRGREDWRCLCLTENLFSC NHLLCGNRKAFYNSSKAGRTEWEPQA S*KKIHDVLECSGPRADSSCTEWTLTDV WKI*DRK*SLTRTAKKSKILSKEEQVVA FHESGHALEGWMLEH/TEAVMKVSITPR TNAALGFGQMLPKDQHLFTQ/ESSFERR FIALGGRAS/EHFSLNEVTS/GAQDDLK VTPIAYSMVKQVGMAGGIGPISFPEAQEG LMGIGRRPFNQGLQMMMDHEARLLVA/ KAYRHTKVLQDNLDKLQALANALLEK EVINYEDIAIGPPPHGPKMIAPQRWI DAQEEKQDLGEEETEETQPPLGEEPT WPK
1689	9740	A	2633	2	2416	FQANMAVLLLLLRALRRGPGPGPRPLW GPGPAWSPGFARPGRGRPYMASRPPGD LAEAGGRALQSLQRLLTPTFEGINGLLL KQHLVQNPVRLWQLLGGTFYFNTSRLK QKNKEKDKSKGKAPEEDEEERRRRERD DQMYRERLRTLLVIAVVMSSLNALS GGSISWDFVHEMLAKGEVQRVQVPE SDVVEVYLHPGAVVFGPRALMYRMQ VANIDKFEEKLRAAEDELNIEAKDRIPVS YKRTGFFGNALYSVGMTAVGLAILWYV FRLAGMTGREGGSAFNQLKMARFTIVD GKMGKGVSKDVAGMHEAKLEVREFV DYLKSPERFLQLGAKVPKGALLGPPGC GKTLLAKAVATEAQVPFLAMAGPEFVE VIGGLGAARVRSLFKEARARAPCIVYIDE IDAVGKKRSTTMSGFSNTEEEQTLNQLL VEMDGMGTTDHVIVLASTNRADILDGA LMRPGRDRHVFIDLPTLQERREIFEQHL KSLKLTQSSTFYSQLAELTPRFSVADIA NICNEAALHAAREGHTSVHTLNFEYAV ERVLAGTAKKSKILSKEEQKVVAFHES GVHPLVGWMLEHTEAVMKVSITPRTNAA LGFAQMLPRDQHLFTKEQLFERMCMAL GGRASEALSFNEVTSGAQDDLKVTRIA YSMVKQFGMAPGIGPISFPEAQEGLMGI GRRPFSQGLQMMMDHEARLLVAKAYR HTEKVLQDNLDKLQALANALLEKEVIN Y*/EDIAIGPPPHGPKMIAPQRW/V DAQREKQYLGEEETEETQPPSLGGEEPT WPK
1690	9741	A	2636	350	1256	LCLFPLPARKMATNFLAHEKNLVDKFK YDDAERRFYEQMNGPVAGC/ASRQENG A/TVILRDIARARENIHKS LAGSSGPGASS GTSGDHGELVVRISLEVENQSLRGV/V QELQQAISSEARLNVLEK/TWPGHRA GPQ/TQHVSPMRQ/VEPPSPRSPPTAEG/ DARDDIALFGSDNEEDKGGGTSRE E/RGFREFPGKRPKPRLV/AQLSFLG* NPWDR*KDMAQLEACVRSIQ/LGTGRS WGASKLGAPWATGIRK/LQICVVEDDK

						VGTDLLEEEITKFEEHVQSVDAIAFNKI
1691	9742	A	2637	1	304	GKTFDFTFCPLGPALVTKDSVADPHTLKI CCRVNGKVQSGNTNQMVFKTEDLIAW VSQDVILTGTTPGVGVFRKPPVFLKKGD EVQCEIEELGVIINKVV
1692	9743	A	2638	1	927	
1693	9744	A	2639	3	847	PSGSDFAAAVVPRLDAVTGASQAQAPAA LDLPPREP*LSAGGPVAAAAARALAAQ LPVLPSEVTFAPVTWPKVVCVGMN YVDHCKEQNPVPKEPIHFKFASSIVGP YDEVVLPPQSQEVDEVELAVVIWKRK ASTSR*SGKGGLPVQSAEAPAPASPSD LTHQHTVPAVPDTRKQSASLLPDTAFPF THLWLALATNMG*QLRDPLP*VLVSPMI *PPVWPNPLP*ATDAMAHVAGFTVAH DVSARDWQMRRNGKQWLL*KTFDFTCP LGPA
1694	9745	A	264	3	413	SSYRWPSFPILKTCRGPMAPSLSFPGSFLS GLSVPLPLHHPPCPT*LKAAYPNCQLWP FLASVAPDTAPPECPSCFLLQRAQA/PPF LLDLFPYDC*GLCCT*PHQPRGNPLTPRQ GLWLGLKTHCMGTAKAGPGIPR
1695	9746	A	2640	2	562	ITPRFHLICSDPHNLKICCRVNGEVVQSS NTNQMVFKTEDLIAWVSQ*VTRAVLSAP LHLPHMWRLT*ALHLWLWPLSQPLVSL GPFALLQFVTFYPGDVILTGTTPGVGVF RKPPVFPQGRFSEKQREQGPPKPLAGLPS DLRSTGLCMCV*RKGLTSLWPALLQKG DEVQCEIEELGVIINKVV
1696	9747	A	2641	867	1476	LVPVLRRLPLTSRPASPNQAQEDRLPPP RRQEVNWEGLAGVIGKKGKPIKATDA MAHVGGFTVAHDVSARDWQMRRNGK QWLLGKTFDFTFCPLGPALCDQVTGVAD PHNLKICCRVNGEMVPERQTPNQMVIS RQRT*IALGLPSLVTLPPGDVIPNLGPPH LHPGVGVFRKPPVFLAKKGDEVQCEIEEL GVIINKVV
1697	9748	A	265	646	1333	EPGMWQSPSIGCPHRTGQASCA/SPPS TGLS*IPAFPGWRPAWHLHPLLTSPCTC* L*SLGVFPVPPQPWSTPSQDLNDIFPV PPSYRWPSFPILKTCRGPMAPSLSFPGSFL SGLSVPLPLHHPPCPT*LKAAYPNCQLW PSSASVAPDTAPPECPLLLCFRGPSPILL TSPICLLRLLQLSPASGESHYPPQGRAV GWA EKPSAWSTRSLALGFPMNNEN
1698	9749	A	2651	28	352	VRVWVGNA GRCRLCFRADGVASGVGCA WDGDRMCLPESFIRAPVLSVSTAGPQSS QGSSGRSATPGEGAQGINRTLSPALPSP PMAPPPSYLVGTSPAPHSDDG CW
1699	9750	A	2652	1198	1889	LKLPIFRDLKVQCGWVELENRLTKMLLS TSVLSCFSSRPNMSEVSCNKR YDYLEWP EYFMAVAFLSAQRSKDPYSQVGACIVNS ENKIVGIGYNGKPNGVHNSLFP*RRTPK NKLDTKYPYVCHAE LNAI LNKKFRPDV KRPEVCMFALVPPGK*NGGLSLII/LQAGI KRKLIFHVLINYPG*LTGATAARLLF*YG PGVTFRKFI PKCSKIVIDFDSINSRPSRKL Q

1700	9751	A	2655	1099	1712	CALGEGNSGHRAFSKDRARLRPGWWSG RAKDELGKPKPLGPS*RRADRR*GQSAC DSSPPSGPGP/TGDGARGRC*AARPGPRA RRRLGPSGEDRSCQMGTEEHGRLW GLSVGPAPKPESAPSSLTCPREETPGRGR PPAPQFQSLARSHGIRGAGDKPTEEKSL PQQRHRGGASSVGRGPLGFFPLEEAPLP YPWPPNLQ
1701	9752	A	2656	1	900	
1702	9753	A	2657	465	1269	TSSSCSCHPPNACCRGTSSVLSQKAGQ APHLPGPTGKPLRSSGSLRAVRAPGPIGG GQAPWSDPPVLQAPRPPQAPRGSWRG AGPRQPGRDAAPRMLLPQPRYRTLQPO RLMPKKNRIATYELLFKAEVGMVPPKKD VPIPKHPELADKNAPNLRMKPMQVSQ GRGGYVKGQFAWRHFYWYLT*GSK COLHTEAARLGQP/DIIPTRTRAL*PATG HLSMRARSLEVQRPTAAPSGPSWLSLLQ KGMWTGKNEDLHFRRCR
1703	9754	A	2658	1	433	
1704	9755	B	2659	140	480	MVFEFLYKMCVMAAYFGKISEENIKN NFVLIYELLDEILDFGYPQNSSETGALKTFI TQQGIKSQHQTKEEQSQTSQVTGQIGW RREGIKYRRNELFLDVLEKVNLLMSPQG S*
1705	9756	A	266	268	926	ASCTPFPTLPVRGRLGYNPDSPGTSNAH WAGDNEMSLVGLGPVTKPYPHGALPQG WGSWWVRGLSRTPAVTLSQLCSCVLE TCWGPGEAWFLSPQSVMDLESPPSPA DPQDGSGLGVYGLASSWTNVQPTWNTSR IGSACQA/RSEFNKSHLFIFLEGET*GPQK GGGVPPKPHYKAPMQSPGPILWTQPRAP PTGAIYFFLQMGPPWRFSLFGVGG
1706	9757	A	2660	100	1674	SAAMIGGLFIYNHKGVLISRVYRDDIGR NAVDAFRVNVIHARQQVRSPTVNIARTS FFHVKRANIWLAAVTKQNVNAAMVFEE LYKMSDEMAAYFGKISEENIKNNFVVH YMELLDEILEFGYPQEFRD/SGALKTFITP AGHSRSSGFRQKEGSSQFTSQVTGQIGW RREGIKYRRNELFLDVLESVNLLMSPQG QVLSAHVSGP/VWVMKNYLSGMPECKF GMNDKIVIEKQKGTADETKQEPGSNQL LIDDCTF/HTQCVRLSKFDSERSISFIPPD GEFELMRYRTTKDILPFRVPLVREVGR TKLEVKVVKSNEFKPSLGLQKIEVRIQPP LNTSGVQVICMKGKAKYKAGENSFVW KIKRMAGMKESQIQRGFELLTNDKK KWGC/RPPFPMNFVFPFAPSGLKVGYL KVLNPKLNYSDDHVIKVVWR*IGRISGIY ENSACKATRLAQLPQPPFLQVQVPLL PQTHQVSPSLPALLPSLHQARSLRSGP KQHYKVGPEPALGLPGQGEF
1707	9758	A	2661	1	356	
1708	9759	A	2662	303	774	DPKSCGRWRRGRNGNGELADLQAESH ARAAGRGLPGALARVQPEAAAAEVGAR CGRGA/AENSIDFVSRELCAHSIRKLQAH VLLIKAVHGYFDPRENYSDKESLSFMDT MKSTLKERFQFVEVPGNHCVHMSEPQH VASIISFLQCTHTLPAQL
1709	9760	A	2663	572	902	GALARA*PPQQRWVSCPR/GVP/GAL*RE FTMFLSLQAENSIDFISRELCAHSIRKLQA HVLLIK*VAQAGAQRSQLTGYGSLTWA CPPLTTVKSHGTAPPHLLHEPSPTSDLPP SMTLLPGGLPKKDLES
1710	9761	A	2664	1	398	PNPLSTQMGTSGGKGHQUELLEYSPPGGP PPGPRKQFHCSPPPNPASGKKGH/SPPL /SPHSFSKVKFNQAPPPPTPTPKQERKS* LKMLFNFSAPVDPTPAQMAPPGLFVPSP SPPLHRLPPQAWGQRHSQQ

1711	9762	A	2665	119	496	TGAVSFQMPEETQTQDQPMEEEEEVETFA FQAEIAQLMSLIINTFYNSKEIFLRELISNS SD/GEPMGRGTKVILHLKEDQTEYLEERR IKEIVKKHSQFIGYPITLFVEKERDKEVSD DEAEKEDN
1712	9763	A	2666	1	235	
1713	9764	A	2667	1	2424	RKVREASGKSAARWAGPSLYKAGAGV ARQLLRPGVAVPLVLCGLAKMPEET QTQDQPMEEEEEVETFAFQAEIAQWISLII NTF*LETKRSFLRELISNSSDALDKIPVLN A*HDPHSIRPLGKELHITLLPDQTKIRTL TIVDTWNLE*PKADLINNLGTIA/RS LGT KAFMEALQAGADISMIGQFGVGFYPAI YLVAEKVTVITKHNDDEQYA WESSAGG SFTVRTDTG*TYGSVGTKVILHLKEDQT EYLEERRIKEIVKKHSQFIGYPITLFVEKE RDKEVTDDAPQEKEDKEEEKKEEEKES EDKPEIEDVGSDEEEKKDGDGKKKKKKI KEYIDQEEELNKTPIWTRNPDDLME EYGEFYKSLTNDWEDHLAVK/HFFQFEG QLEFRALLFVPPTVLPFDLFENKKKKKN NIKLYVRRVFIMDNCEELIPEYLNFIIRG VGDSDELPLNISREMLQKPKF*KFSRK NFGPKKCLELFTELAEDKENYKKFYEQ FSKNIKLGIHEDSQNRKKLSELLRYYSI ASGDEMVS LKDFCPRMKENQKHIYYIT GETKDQVANS AFVERLRKHGLEVIYMIE PIDEYCVPLAKEFEGKTLVSVTKEGLE LPEDEEEKKQKEEKTKFENLCKIMKDI KAEKKVEKVVVSNRLVTSPPCIVTSTYG WTANMERIMKAQALRDNSTMGYMAAK KHLEINPDHSIIEPLGPKAEADKNDKSV EGILVIWLKETAPPSAFSLAENPRTHAT RIYRMIKPIGLGVDEDDPTADDYQWLLV TEENPPLEAGDDDSRMEEVD
1714	9765	A	2668	524	797	AVSPSEGEQERGERKAGACGSRL*SQHF VRPRWADHLRSGV*DQPGQHGETPVST KNTKISWAWW*ASVIPATREAEAGEWL EPRRRRLQ
1715	9766	C	2669	102	323	
1716	9767	A	267	599	1420	SHLPSLSLLPRIPPEVIVGSEGPVVFFCP WGSCWGLSRTPAVTSLQGLCSCVLETC WGPGEAWFLSPQSVMCDES PRSPADP /RGWKFRVYGLASSGQMCNHLEYSRML VLARHSELISPTYSFEGETE AQRG*GIPP KPHSRNAEPGYTGHTWPLHTGTFTF SSQMRGPSGLD SGGWIKTEGDKEKAPG LMGLKDRDTGTCYGCVC SKPGQLQA GGVLYLAQPPALIRLPNGPRPARARERR DWHHREETGFLLEATLLKARP
1717	9768	A	2670	146	804	TETRFSDSVAQAGPGTFGPLLLALPRL TFSPLLSFPTVGTCKGNPLWAPKPCPALA APSGCRM TWKEQGRKMGVNC/PRPVAA CMCV*TKRPPSPMFLSPRFSSETRRAA RGSSLPWWAGAWSASSDSPLPRSTAP RRSVCTHCGLTQPTRHACQKAGVCVR GPRSEAKGGWRGRALLLLAATPCPLSCP NLGLPAKVTP EQGLVRRGGRPAGP
1718	9769	A	2671	1	787	LNSRVEPRVRSRTMETKPVITCLKTLLIY SFVFWITGAILLAVGVWGKLTGLGTISLI AENSTNAPYVLIGTGTTIVVFGLF GCFAT CRGSPWMLKLYAMFLSLVFLAELVAGIS GVVLRHEIKDTFLRTYTDAMQTYNGND ERSRAVDHVQRSLE/SCCGVQD\YTWW STSPYFLEHGIPPSCCMNE\TDCNPDLH NLTVAATKV\NQKGCYDLVT*FSWETN MGVHAGSGRLGIVAFSQLIGHAGWACCL SRFHHGPIQY

1719	9770	A	2672	1	670	YKVLIFT/SPCS/VDQLCSALCSCFRPKDT ER/LRG/APEGFSRTDLHLA/VVPVLTALI SYHNYLDKTKQREMVYRLEQGLIHRCP/ RQCVVALSICSVEMPDIIIKALPVLVVKL THISATASMAVPLLEFLSTLARLPHLYRN FAAEQYASVFAISLPYTNPSKFNYIVCL AHHVIAKPLHRLQSPHLMRWASGSAS SPRWRTSPSLCEAGALPPALALDGIACQ
1720	9771	A	2673	1	154	
1721	9772	A	2674	237	410	
1722	9773	A	2675	1	414	
1723	9774	A	2676	1	6371	MPDSCGLHIPAAHAAPSRDARIAGLSAR GRHRTTTPSKLPRRPSAQCRYRKCGSRF RRRPGARGVRLSPRRGGPERGGAAREGF SGASWSTMAKPTSKDSGLKEKFKILLGL GTPRPNPRSAEGKQTEFIITAEILRELSME CGLNNRIRMIGQICEVAKTKKFEH HAVE ALWKAVADLLQPERPLEARHAVLALLK AIVQQGERLGVLRALFFKVIKDYP SNE DLHERLEVFKALTDNGRHITYLEEELAD FV
1724	9775	A	2677	1	5405	MAKPTSKDSGLKEKFKILLGLGTPRPNP RSAEGKQTEFIITAEILRELSMECGLNNRI RMIGQICEVAKTKKFEH HAVEALWKAV ADLLQPERTLEARHAVLALLKAIVQQGQ ERLGVLRALFFKVIQG/DYPSNEDLHER LEVFKALTDNGRHITYLEEELAD FVLQW MDVGLSSEFLLVLVNLVKFNKLVTLDE VQSQRNGFKMICLLCVRTASSVDIEVVS LARLLDAVGLANNCLPAESLPLFIV
1725	9776	A	2678	1	5469	GASWSTMAKPTSKDSGLKEKFKILLGLG TPRPNPRSAEGKQTEFIITAEILRELSMEC GLNNRIRMIGQICEVAKTKKFEH HAVEA LWKAVADLLQPERTLEARHAVLALLKAI VQQGERLGVLRALFFKVIKDYP SNE DLHERLEVFKALTDNGRHITYLEEELAD FV LQWMDVGLSSEFLLVLVNLVKFNKLVTLDE DEYIARMVQMICLLCVRTASSVDIEVSL QVLDAVVCYNCLPAESLPLFIVTLCRTIN V
1726	9777	A	2679	35	239	SPSSQPPVPVIPH*PVCKQPTSCRSRKR V LNLVGGGEGAASY
1727	9778	A	268	1755	2524	VPWGNPGSESVGLPGGRGLVTAPAVFLP PKPAPGFGAQHVRSRK/PSRRGQLIRAA WLTGSPVRPGQEMLGAGRGGASGRAG* GPAPYRKLSSASARGAGHPESGNCSSSG SGSTWSSSWGSGSGSSWGSRLSQEMV EEVL/HFIQGGAG*AGGTQWALVSNLG FGVRQGDDIVVVTLIGLHGSIEDGAGVQ GRSEAMEPRQAG/RTEGWLGHSSETP HPPAGTSFCNLRPTV SREAAPAGRRGAE SQTSLPSTSA
1728	9779	A	2680	118	359	AVCKQPTSCRSPPCPSPGCQASPC*AFRR LEI/CRAGF*A*ALGPGKSQGGQNCPRSSPP PSP/CPLLYGQNCG*KCPQRLH
1729	9780	A	2681	229	455	TMQGSNLKPLPSP*PRAATKIPNP/SPSPP PQPAPQTTPHSILSTKAMTPVTIQALFSRI VRYLDCRRDSLTSQSF
1730	9781	A	2682	1	373	

1731	9782	A	2683	72	1031	GCPRLILLRGRSGLEPGTFRKMAAARPSL GRVLPDSSVFLCDMQUEFRHNIAFYFPQ IVSVGSRMLKVARLLEVPVMLTEQYYPQ GLGPTVPEAGD*GPSAAWQKTCFSM/CC LPLQQELDSRPQLRSVLLCGIEAQACILD PRSYPGLALTSYPQNTTWDLDRGLQ VHVVDACSSRSQVDRVALARMRQSG AFLSTSEGLILKLVGDAVHPQFKELQKLI KEPAPDSGLLGLFQQNSLPPLNSNPALR EDHPPVHPGPQWEARFPPSLGFPRVGAIP PGSCRPLVGGGWCCLPQQLPEMQM RLLETGWEMG
1732	9783	B	2684	1	792	MGVLPSPYFWDDEAEAEQEGICLSLKQRM PVGRAGHSGHFLADATSRALARREEW GKQEERG VKESSESTNTTSRMKTPKEDV RPGMTAFEPEALGNLVEGRTSIDSILKTV SNSFSLGACCLLSFHVLLDGTAGRGSDR DEQNAHSV VPEQQARAHHPHSHIHL GDESACIAYIRTRSTWTLAASHAPPSRRD PCLAPPGWQMAADRPLHRSGAPSVLPHSQ DTEMNQERYMNASISFPKPPHSTSQQ VLFIQPGEEREI*
1733	9784	C	2685	10	126	
1734	9785	A	2686	2	370	HCIIQILEAVLHCHQ/MGVVHRDLKVPGE KKNQTLGRAVLLSFT*RRQLSLGLHQLH SLAPSAGTSWISLLILMVS VAGFAGT/PG YLSPEVLRKDPYKGP/VDLWACGG*RFS GPLPGVILYILLV
1735	9786	A	2687	1	1593	
1736	9787	A	2688	3	1607	IPGSTISCSSVKPVLCLHSAARACKWSLG SGAEQQRSLSPGPPVPSLTCLPSARMATIT CTRFTEEYQLFEELGKGAFSVVRRVCVKV LAGQEYAAKINTKKLSARDHQKLEREA RIRCRLKHPNIVRLHDSISEEGHYLIFD LVTGGELVEDIVAREYYSEADASHCQHI LEAVLHCHQMGGVVRDLKPENLLLASK LKGAAVKLADFGLAIEVEGEQQACVGF AGTPGYLSPEVLRKDPYKGPVDLWACG VILYILLVGYPPFWDEDQHRLYQQIKAG AYDFPSPEWDTVTPEAKDLINKMLTINPS KRITAAEALKHPWISHRSTVASCMRHQE ARGPA*KKFNARRKLGAILSTMLA/T RNFSGGKSGGNKSDGVKESSESANTTI EDEATKVRNQEIHKVTEQLIEAISNGDFES YTKMCDPGMTAFEPEALGNLVEGLDFH RFYFENLWYRNSKPVHTTILNPHIHL DESACIAYIRITQYLDAGGIPRTAQSEET RVWHRRDGKWQIVHFHRSGAPSVLPH
1737	9788	C	2689	6	167	XXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXX KH*
1738	9789	A	269	3	389	GVSPCWPGWS*TPDLK*STRLGFPRCWD YRLLEVPCTGHSYL*KDPPVLPPLAEG CDYQGKEYALSSCCDKSYLLPDYRTKFL CCHPERGTWKLGTVGGCYAPIQSFGIAD EQAWLQHGSGAVYLC
1739	9790	A	2690	310	593	LQVISEYLFWRINFFLFLF*TVSLSVAQA RVQWRDPGSLQPLLPGFKRFLASASRV ARVTGAHHLHAQL/ILYF*VETGFHHVG QAGLELLTSGK
1740	9791	A	2691	58	481	LQVISEYLFWRINFFLFLF*TVSLSVAQA RVQWRDPGSLQPLPPGSRDS*ASASRVA RVTGAHHLHAQLFCIFK*RQGFHPGWSG WSSNLPDLQANPAASALPKVPGITGTSP LHPPWSINFKNIKIWNQETSILVFFRL
1741	9792	A	2692	1	398	

1742	9793	A	2693	3	267	AMVGGGGVGGGLENANPLIYQSRGER PVTAGEEDEQVPDSIDAREIFDLIRS*AW PLTPQPAYWYPGPSSCQGCYRCFLESLT MRN
1743	9794	A	2694	1	942	
1744	9795	A	2695	3	707	AMVGGGGVGGGLENANPLIYQSRGER PVTAGEEDEQVPDSIDAREIFDIRRCWAR AGSGGLRWGEQ*YRAAGGAASQQGVP GRGF*VGKGAESLFLHFPQLIRFLNDPVE HSLTLEELNVVEQVRVQVSDPESTVAVA FTPTIPHCSMATLIGLSIKVKLLRSLPQRF KMDVHITPGTHASEHAGKCGLVVRVLA RAPPKQSEASPLHRSLWARLEMGNVCVSE IARDSSVWVIA
1745	9796	A	2696	2	604	ARSHRISGGGSAMVGGGGVGGGLENAN NPLIYQRFGERPVTAGEEDEQVPDSIDA REVFDLIRSHQMTPEHPALTLEELNVVE QVRVQVSDPESTVAVGFPKPTHSGTCR HGPPILIGLSMKVKLLRSLPSAFSRWDVA HLLPGDPLPQEHAVEQATLQIKEAGWAT ALGRTPHLLLEVVMQCLSSPAPGTWAFV PLSLA
1746	9797	A	2697	79	690	KVSKAIAGCLRNYGVCLAHLRTWAIPEP PKMNPVVEPLSWMLGTWLSDPGAGIT YPTLQPFQYLAEVHISHVQAMLNFSF NSFHPDTRKSMHRECGFHFASKPDTNK VGLCQAPQNTGLGWNWKEGEVKRARS LCIRIPLPFARISFRQKPHVEQIT/RGKFR LASEGKL*ADGSPMGNPRHSPMTQHH HDTYQEGEHRKP
1747	9798	A	2698	1	405	
1748	9799	A	2699	1	1437	
1749	9800	A	27	244	309	NPKGQKDREAPLSRSVFLKIKIKRAFAL LLHGRF*PSTPAASASPASKSPRGSGKAL ASALFYIVQLTK
1750	9801	A	270	555	1181	RGPMERPKQMTAVHCQGHQRGDSEIRN FRCHGPNSCTRWGSPPHASASFSTCL*N KPKYFPWGISLFFLSRRSL/DSVAQAR VQWCNLGSLQPLPPRF*QFSCIRLSS*D YRCMPPCPA/NYL*F**RQGFTI*ARLVLN S*PRDPPVLASQSAGITGVSHQARTFFLF FETTFHSAHAGVQWHDLSLPPPPPRF KRLSCLSLSS
1751	9802	A	2700	78	399	FIHRPSDGGPPAERSPCRGRVCISGKKHS YPSCWYPLPKHTASCPISTSILTPLPLDL RIPLMWKDTHEYFKNKGDHLRWAVFLL QLGEHIQDTEMIHVDRTLTYCI
1752	9803	A	2701	2	368	VVAGALGCSWLIGAGFLSGREGACRR ERGQQQTGTPLPSSLPLLSLEKRAGRTA ATKARLDTLCLEPPLQLAFPPGDPTYPT SLSFSSLPLPA/WPPEQQWGEENLSQQP EGV*QELQRDKGSFCPLPKSWPPL*RG GARLQLARNRGWFPVWKGRGLQKGAG TAADRHTPAFLSPSPFSGKASWENSCH QSETGHSVPRAPSAAGLSSWGPHLSSLR FLFLPCLGSRQAPGAAGVGRKFVTAARG GLTGVAEG
1753	9804	A	2702	1	588	VRAGELDQALGRPFTLSISNQYGDDEV HTLQTESREALQSWMEALWQLFFDMSK REGGWVEPLGRTGVCHFY*RPFLQDYV EGNVAGERAAWLSLLISALLPGQWKQC CDEIMKIETPAPRKPPQALAKQGSLEYE MAIEPLDDIAAETDILTQREGARLET WLAMFTDQPALPNPCSPASVAPAPDWT HPL



1754	9805	A	2703	46	1825	AAAGSETGLGSCLEGKGAEGSGDSSRQ AHPCLPLSLSSLLWKSEDTLQKRLDHEI RLRKGPCKLLANLLPSEKQALEAVTKSL LVCNSRLASYMGEILQARKEAQLLGKT SRRPSDSGPPAERISPCGRVCISDLRIPL MWKDEYFKNKGDLHRWAVFLLQL GAEHQDTEMILVDRTLTDISFQSNVLF AEAGPDF*TCGLELYGACVEEEGALTGG PKRLATKLSSSLGRSSGRRVRASLNSAG GSR/GAIPFMLPTPEVGGPRYHLLAHTTL TLAAVQDGFRTDHLTLASHEENPAWLPL YGSVCCRLAAQPLCMTQPTASGTLRVQ QAGEMQNWAQVHGVLKGTNLCYRQP EDADTGEEPLLTIAVNKVMGPLYETRVR AGELDQALGRPFTLSISNQYGDDEVTHHT LQTESRGSTCRAWMEALWQLFFDMSQ WKQCCDEIMKIETPAVRKPPQALAKQG SLAYHEM/ALFEPLDDIAAVTDILTQREG ARLETPPPWLAMFTDQPALPNPCSPASV APAPDWTHTPLPWGRPTFSLADAVPPDH SPRASLRFAPLPTFSESPRTRGLLQAKGQ PRTWLQSPV
1755	9806	A	2704	1	370	
1756	9807	A	2705	1	363	
1757	9808	A	2706	158	301	IIMTLAEDLLCSAAQNSRLSAQRTQAGW LLISALMTLGNL*KVYIP
1758	9809	A	2707	182	395	
1759	9810	A	2708	1	434	SSYIPFSIQILFPTHTFTL*HPVSWKNC RK*TRENK/ITAELEIFQEGIKVLETLVT VAEEHHRAQLVACLLPILISFLLDENSLG SATSIMRNLHDFALQNLMOIGPQYSSVF KSLVASSPALKARLEAAIKGNQESVKVK I
1760	9811	A	2709	112	501	
1761	9812	A	271	80	599	SIQEKRLGGEQSPTFLKELQEGTSWLLM AKLYEAVTFKDVAVIFTEELGLLDPAQ RKLYRDVMLENFRNLL/SQWGINHAMEI LSTS*GKEKLWVMGTSSQ*ERNLGGKIQ TEMETVPEAGTHEEFSCKQIWEQIASDL TRSQDTTISNSQLFEQDDNPSQIKARLST VHTR
1762	9813	A	2710	1298	8400	FPTNTTFPLLKVCYRFHYAEPVPGHCR AGVRREGADWGTGSADKQRGPFLLDY GKVWLAPCAQQNDVREKQKTLVEQLLSL LNSSPGPPTRKLLAKNLAILYSIGDTFSV HEAIDKCNDLIRSKDDSPSYLPTKLAHV VCLGSLYKKLGRILGNTFTDTVGNIKA MKSAESQGRYEIMLSLQNLNGLGAAAA PCHRDVYKAARSCLTDRSMAVRCAAAK CLLELQNEAIFMWSTDLDVATLCFKSF EGSN
1763	9814	A	2711	2107	2424	TTRYLKKTSTTGQRKKRGRNGSFPTEN LVPSGTVTGSQQLGPPFR*N/HTEECWGP PTADGRAGKGPRQQPGRAQRIYRWDPS DGTTWHHRPCGSRGTDQPETK
1764	9815	A	2712	1	368	FRREGRPAGAGAGFADSGGAPSSCCGPT VRPVAATAENVLHVRGAFQEFVPCQAG VQWRNHGSLRPPPPGSSHPPISAS*VVET TGMCHHVWLIF**NFFVETGSPYVAQAL ILLMLGIKTL
1765	9816	A	2713	1	278	
1766	9817	A	2714	188	406	

1767	9818	A	2715	123	914	PRAGGCGGSGRVTAACACATLVWPPR FQEVLLVLSGLVHARGCTYSQLWSRSH FCCSRGPLAMAGILFEDIFDVEGY*PEGQ EVWTECSRLHCESESRMDLILDVNIQY PVDLGDKFRLVIASLTLYEDGTLDDGEYN PTDDRPSRADQFEYVMYGVYRIEGDVE TSTEATR\AAYVS\YGGLL\MRLQGD\A NN\HGFEVGLPRVYLLMKKLSLLNLAL NQPSLPSHSGRGHCSSLGQPLFAHLLRK GWLTVHRWRHL
1768	9819	A	2716	1	2415	
1769	9820	A	2717	2	964	
1770	9821	A	2718	276	482	
1771	9822	A	2719	329	3354	PVRQFIFPKLPIRHCLAEVGGRGQTCAP PRKWAVPIGLHSRATSQSGCGGGRSWL CSSLKMAAQPPRGIRLSALCPKFLHTNST SHTWGHVSQLELIG*CLWIPDVNAKQI WGLTKQWINDHICLTFDNGNGMTSDK LHKMLSFGFSDKVTMNGHVVPVGLYNG FKSGSMRLGKDAIVFTKNGESMSVGLL SQTYLAEVIKAEHVVPVIAFNKHRQMIN LAESKASLAAILEHSLFSTEOKLLAELDA
1772	9823	A	272	1321	1913	VEMRRNQCKNSSNSNGLCVICPSNNHTS SPTRVLATWMNCLELHKYNV*IWIGKKII *TQENGKTQSEENKNNIKVLQELKDKVA GIIKKNLTDLNAPKNTLLEFHNAFTSINS RK/DKSDERISELEDWVSNIRWTKVN*NE QILHGGWDDIMRPILQITGISEREVEKSN NLENVVQDIIFESFPNLARKANSIQIE
1773	9824	A	2720	1135	1476	HGVSLLLPRLECTGH/VISAHCDPRLPFG ERFSCLSLPSSWDYRHAPTHAQAKFCI FKWRRGFSHVGGAG*HFYFPSQVLGTN MEDFFLTGLILHGLFQEDSNAPYSFKWG SLR
1774	9825	A	2721	670	1253	ACYALNLFPKHTDIFYFFIYFFCRDRGP RYITQAGLKFDVK*ILPPWPYQSVGHISV SHPPGPH*CILNAINKNYRYRN*LLY/IQ YPMLFGVFLRQGFAVT/SAAVQWYDHG SMQPQLPGLRWFSHLSSGWEHRRTPP RLG*FCIFSRESFVMLPRLVLNSWGSNDT PALASQSVVITGMSHHAPAFPMFL
1775	9826	C	2725	95	310	MREYNLVVLGSGGVGKSALTQFVQGI FVEKYDPTIEDSYRKQVEVDCQCMLEI LDTAGTLPRLTTYRT*
1776	9827	A	2726	1	1101	
1777	9828	A	2727	53	772	IPRSGITGSEGDYPVYKSMCLTAPSMALS RSSVFKQITSLREYKLVVLGS*GVGKSAL TVQFVHGIFVEKYDPSIEDSYRKQVEVD CQQCMLEILADTAGTEQFTAMRDLYMKN GQGFALSIFYLQLQSTFNGLYRDLEGNQ ILRV*GTRE/VMFPMILVGKCDLEDERV VGKEQGNLARQWCTLALLESA/RRSE IQVNEVL\YDPVRQINREY/TPVEKKK* KNSMSTLLGPVRRQL
1778	9829	A	2728	377	615	VPAQCSF*DTASCLLVKRMRLDAVAH AYNPSTLGGRGGWI/TRGQEFKTSANM VKPVSTKNKKISRVWWHNRNPSYSGG

1779	9830	B	2729	1	1224	MPTVGKAQARRRTRDLLLLDITQVLIDQ SPRKDTGLAQQTGVIVPSKGIVKYWRAQ LKGDMMKYASPAFELFYFSVRAQSTDGIV TLLDPTTREDCDISSAPNPEVTRQRAEV AGVGLLAVKVPRDEEGVLGGAPGPQKR SRVCGEPTLQRRSGPLPVARPGSRCPPT SVSSPVPEDYGRVVMIRLDNPGISGRT IENNPPLEKQLPGEPSENSPYLGPQVLF LLRDPREDVMLLLNQPTTTAEKQAVLQ AAEIFRNEQQISYNTSKGKKGDRECEIA ETPFQIGSEAVPLDNPWNSSSSAGEWK RRHFLICILEGLERTKAKFLNCSKLSMVD QKPDENPAAFMERLREALIEQTSLSPDSV EKQLILKDKFVTQSASNIRRLKQQAIGP ISTLKNLLK*
1780	9831	A	273	193	310	
1781	9832	A	2730	877	1536	TNFLFALSPSCLAGLLPPKFQFSCSLLS SWDYRNFIYIFW*RWGFTMLARLVNS*P Q/CDPHTSASHSAGITGMSHCAWS*TLNF FSYELFFSFTSALS*KDHCKGGHNMGCQ FT*MHQ*L*EKPP*LLFETESRVA/QAG VQWRNLGSLQPPSPGFKRFSCLSLPSSW DYLRTPPRANCCCCIFSRDGVSPCWPGW SQSLDLVICPPWPVKVLGLQA
1782	9833	A	2731	3	643	RLEEDLGRRQSLAPVGVVETVYFTVVL WTITMGIOQAGSVLFGALLVLAVLCVHS GH*PCQC/YNGFLPQTADCQKQPFNCSS GFWMRVFITQKLGQVYNKICWKFEC NFNDRHNP*A*RKMGILTILLCKKG/LRCN FTEARLENGGTSASEKTVLLGELHFWA AAWEPSIPKSNTRCFLTKLPRSLRSSVF PLGWPHSKGLDIFQMGSWLGKE
1783	9834	A	2732	11	431	RHLLAAPPAPPAAAAAALSHCLRSSG RLAPHTSRRLPRVVKRRVNALKNLQVK CAQIEAKFYEEVHDLERKYAVLYQPLFD KRFEIHAIYEPTTEEECEWKPDDEEISEE LKEKAKIVDEKKDEEKEDPKGPEFW
1784	9835	C	2733	257	358	MILLVFLPXHQVFLERXQSEILHHLNTL ADVL*
1785	9836	A	2734	2	387	
1786	9837	A	2735	64	467	PAAWLPILVAARQLTVQMMQNPQILAA LQERLDGLVETPTGYIESLPRVVKRRVN ALKNLQVKCAQIEAKFYEEVHDLQRY AVLYQPLFDKRFEIHAIYEPTTEEECEWK PDEEISEELKEKAKIEDEKKD
1787	9838	A	2736	1	795	
1788	9839	A	2737	1	982	
1789	9840	A	2738	2	138	SARGAASCSSRCCRCRPESLPAQLRAA WLPILVADIWSSYNMADIDNKEQSELDQ DLDDVEEVVEEETGEETKLKARSA*LFR MMQNPQILAAALQERLDG/LWVETPTG YIESLPRVVKRRVNALKNLQVKCAQKE TQFYEEVHDLERKYAVLYQPLFDKRFE IHAIYEPT/EKECEWETR*RKDEDFGGN WKEKGQIEDEKKDEEKEDPKG/IFPEFW LTVFKWVDLLSDMVQEHDEPILKHLKDI KVKFSDAQPMSFVLEFHFEPNEYFTNE VLTCTYMRSEPDSDPFSDFGPEIMGC TRVPR*DWKKGKNVTLKTIKKQKHKG RGTVPYCDLKPVSNDSFFNFGPLPESSL RSGDLDDAEAVLAADFIEGHFYRERIIP RSVVNFTGEAIEDDDDDYDEEGR*RS* GRLAPHTSRRYLEFLQHGRH

1790	9841	A	2739	1	435	PRARAERPAPASCSSTSTRITPTDTEVC IVERLFSSSLVAIVSLKAPRKLKVCHFCK GTEICNYSYSNTILAVKLNQRQLIVCLEE SLYIHNIRDMKVLHTIRETPPNPAGLCAL SINNDNCYLAYPGS*SGEAGAGQLLFAN FNQDNTDTEVCIVERLFSSSLVAIVSLK APRKLKVCHFCKGTEICNYSYSNTILAV KLNQRQLIVCLEESLYIHNIRDMKVLHTI RETPPNPAGLCALSINNDNCYLAYPGSA TIGEVQVFDINLR
1791	9842	A	274	831	1102	HFGRPRQVDCSSGVQDQPGQHGEVQS VLKLKLAGHGAHL*SQLLWRLRHEN HLNLGGRGCSEPRWCHFTPWTTEQDS V*NNNNNNK
1792	9843	A	2740	3	438	
1793	9844	A	2741	1	1336	MLLRLQRIKTLRPPGCPHMTTCSAGTLS AVPCVSPRQVVFERRFCLWHSVEMFT HVLFPVISADTEVCIVERLFSSSLVAIVS LKAPRKLKVCHFCKGTEICNYSYSNTI LAVKFNRQLIVCLEESLYIHNIRDMKVL HTIRETPPNPAGLCALSINNDNCYLAYPG SATIGEVQVFDINLRAANMIPAHDSPLA ALAFDASGKLTASEKGTIVRVSIEG QKLFERRGVKRCVSIPLAFSMDGMF LSASNTEDTVHIFKLETVKEKPPEEPTT WTGYFGKVLMASTSYLPSQVTNMFNQ GRAFATVRLPFCGHKNILLG*PTIQIPR LLVGAADGYLYMYNLDPOEGGECAL MKQHRLDGSLTNEILDSASHDCPLVT QTYGAAAGKAYTDDLGAVGAGGLEDE ASALRLDEDEHPPMIIRD
1794	9845	A	2742	152	1616	VQDPSPSRARPPRPGPLAARPAMNLSQ SGEAGAGQLLFANFNQDNTVEK GASRA AGLGRRVWWSLAVGSKSGYKFFSLSS VDKLEQIYECDTEVCIVERLFSSSLVAI VSLKAPRKLKVCHFCKGTEICNYSYS NTILAVKLNQRQLIVCLEESLYIHNIRD MKVLHTIRETPPNPAGLCALSINNDNCY LAYPGSATIGEVQVFDINLRAANMI PAHDSPLAALAFDASGT*LATASEKGT VIRVFSIEGQKLFERRGVKRCVSIPL AFSMDGMFLSASNTETVHIFKLETVKE KPPEEPTTWTGYFGKVLMASTSYLPSQV TEMFNQGRAFATVRLPFCGHKNICSLATI QKIPRLLVGAADGYLYMYNLDPOEGGE CALMKQHRLDGSLGKRPNEILDSAISH DCPLVTSDITAQLAGKGTYPVSSPTETCP TRDDVLGAVGAGGLEDEGAPALRLDEDS EHPPMILRTD
1795	9846	A	2743	122	1162	LGLEGGGASQWVGGRQLQDCRNRSL QGSPETLIPP/SLQITVPSRTCFP/SLQVGL T/FPPRAVPSAAAALGRNLRL*RGWHRRI IPPVWASISRAASSWG/TKPPLFKVPSQPE TLGETWVIKAMAGTYGGSNTLPRSPGG NFRSTVPR*VQTTPRQPGAGLPKPVVVA TSSD*QASRSSPGRSRKDGPSFPALPVS/ RGEPEPSLQPPPPSTR*PSRLRGPRPSPA LSGPLRAPEHAQSSTSPSRWTTSPRMLR APARAPPCPSPTLVVSTPSPFP*RSQ* SGHTPGRFFPCSPPRIRASACASLSTTD GSTAYQIAHAPHHVFLTSLRAFLRLAGS CTNHG
1796	9847	A	2748	54	188	NMTKLQVVSKNLLLLKMLIKERETQRK GGSS*KSTQGAKGGAPR
1797	9848	A	2749	572	857	GQKKGFSGMG*GEKGLGNPSWGTAGG QAPVPPQGLTGTRFTQGSSGTAGPPAST FCLGGHGA VVGTYGRQMYMYEFVFC VGVAQKKDLCPRE

1798	9849	B	275	53	403	ALVTEFQETHSQDAIEHVLANLANFAYD PSNYQYLRQLQVLHFLDSLSENETLV EFAIGGLCNLCPRANKEHILHAGGVPLI INCLSSPNEETVLSVITTLMHLSPPGRSFL P*
1799	9850	A	2750	3	127	
1800	9851	A	2751	1	359	LILVKA AAAALDTGHLSPWFGVRCAFQNP GRRGCS/PEGKQLQSRVI*G*EFQSTAAC EEHYMASIRRSVSPSLSVCTSPSPVLDIL PPTDLYFEQHSPIL*LKVKGSLH*RSSPLR KES
1801	9852	A	2752	1	1270	MGATTMDQKSLWAGVVVLLLLQGEMG FCYVARAGLELLGSRPPASASQSAGITG SAYKLVCYFTNWSQDRQEPGKFTPENID PFLCSHLIYSFASIENNKVIHKDKSEVMLY QTINSLKTKNPKLKILLSIGGYLFGSKGF HPMVDSSSTRLEFINSHILFLRNHNFDGLD VSWIYPDQKENTHFTVLIHELAEAFQKD FTKSTKERLLLTAGVSAGRQ MIDNSYQV EKLAKDLDFINLLSFDHGSWEKPLITGH NSPLSKGWQDRGPSSYNNVEYAVGYWI HKGMPSEKVVMGIPITYGHSFTLASAETT VGAPASGPGAAGPITESSGFLAYYEICQF LKGAKVTRGSRDQQVPYAVKGNQWVG YDDVKSMGDQGSVL*RFKTWGGAMIW SIDMDDFTGKSCNQGPYPLVQAVKRSLSL
1802	9853	A	2753	385	570	KLGEQDKGRIILLVWAKLHQLSY*HI RVLSIGGN*GPGE*MGMPGVHLLFFRT KIRIQI
1803	9854	A	2754	1	1022	MTLAPSDQDLFVFRSGPPAAAGMPCLFF PEVPFCTRVHQPTGRDGSKNLLNELFIAC PGGLMAQGPLDPTESSVPNTKALCGIFS DVAATAENRQTFMQSAIQFLRKYNFDG LDIDWEYPGNRGSPADTQQLFTILLKEM YEAFEQESTRSKKPRLMSAAVSAGKGT IETACQIPEMSSSTPSRKEPPRVWNAPE VPYVYKGNQWIRYDNSKSFTLK/AVLPH SKDKV*TTEFFALLCLSPA HGKFTQAEPK SGGDRASGLLQSTHLYPGHQAAPITAA PGGGSTGGSGFCTGKSKGLYPVPHSKH AFYNCVDEHTYEEACQEGLVFDTSCASC CNWA
1804	9855	B	2755	143	867	XVVVLLLLQGGSAYKLVCYFTNWSQDR QEPGKFTPENIDPFLCSHLIYSFASIENNK VIHKDKSEVMLYQTINSLKTKNPKLKILL SIGGYLFGSKGFHPMVDSSSTRLEFINSHI LFLRNHNFDGLDVSWIYPDQKENTHFTV LIHELAEAFQKDFTKSTKERLLLTAGVSA GRQMIDNSYQVEKLAKDLDFINLLSFD HGSWEKPLITGDNPSPLSKGWQDRGPSSY YNCEICCGVLD*
1805	9856	A	2756	2	394	CSAHSTALRVVRNHFYFTITATQVHKGS SSHPTCDRGNEMMASSQPSAFGIPGWG AR*PAPAPLPHRRGLPGSVTG*WRPIVGQ */PSPHTHCKASTKAQPEPGTPPPGKPS WKELPESHKKSLAPSPF
1806	9857	A	2757	499	1592	QPSQPFLSAGLNQTPVWGTC LHR AELSP STENSSQLDFEDVWNSSYGVNDSFPDG DYDANLEAAAPCHSCNLLDDSAFFIL NQCSWGILASRTGLFMPFRPFWRQLCP G\WPVLGTAGGAVAFQHLWVPVFGP QGYGS\TRSSALL*LGATGVWYGSFAFAQ ALL\GC\HASLGHRLGAGQVQGLTLGL TVGIWGVAALLTLPVTLASGASGGLCTL IYSTELKALQATHTVACLAIFVLPLGL FGA\KGLKEGIGLMGPGPLDEISLW\WF IFWWPHGVVLGLDFLVR\SKRLLSTCL AQQALDLLLNLAELAILHCVGTPLLLA

						LFCHQATRLLPSLPLEGWFFHLDTLGS KS
1807	9858	A	2758	1541	1830	KRFLHLHQHTSGKSGRGFHLCCCGFSS KSP/GS*PGAGGASSSSQSKSPGPRPARV RRRLWVRAPPATSQEEASAGRRVRPPSS VHVNIPPPSVRPA
1808	9859	B	2759	4	1698	MGDFNTPLSTLDRSMRQKVNKDIQELNS ALHHMDLIDIYRTLHPKSTEYTFPSAPQR TYSKIDHIVGSKALLSKCKRTEIITNCLSD HSAIKLELRIKLTQNHSTWKLNNWLL NDYWVHNEMKAEIKMFFETNEIKDTTY QNLWDTFKATLNQEEVESLNRPIITGSEIQ AMINSLGTKKLQDQTSQPSSTRDDMIV YLENPIVSAQNLLKLISNFSKVSQYKINV QKSQAFLYTNNRQTESQIMSKLPFTIASK IHKYLGVLTRDVKDPFKENYKPLLNEIK EDTNKWKNI PCSWIGRINIMKMAILPKVI YRFNAIPIKLPMTFFTELEKSTLKFIWNQ KRACIARSILSQRNKAGGITLPDFKLYYK ATVTKTAWYQYQNRDIDQWNITEPSET MPHIYHYLIFEKPDKNKKWGKDSL FNK WCWENWLATCRKLKLPFLTPYTKINS RWIKDLNVRPKTINTLEENLGNTIQDIGM GKDFMSKTPKAMATKAKIDKWDLIKLLK SFCTAKETTTRVNRQPTWEKIFAIYSSD KGLISRIYKELKQIYKKKTTTPSTSG*
1809	9860	A	276	842	2432	SLISCSEGS SPKASGPSS*EHCPAKPLGPG TWPLLTPGPESGGGGPDVGLRAGQPMN AAPV*SSPCL*N/PGFLTSPGVSSV*MPVL LKEPAFQMAEKAPNGAVCAP/SFPASTS GLWSPAVGVPRSRSLHGSALPWGHAPR Q/SGYPGQSAPAGCGPRPPGGGSRSPGR SVPGSGAWRWPRGRSEACTAPRAWRSA LGESCPAGSGA*AW*WQTAPSPHWGW IGS***VGHLLRAGCAPCWPCLTGTGCTG LPSRSGHKSLSLSVQQVQWLIRFFPLS* M*KPAACLPS*RERPSCAHWTAGGVMG FLSV*SVIR*SLSHCLAAESSPHPGAPQG TATQIGGGGSRVYVQRG*NHRPCRS*PIQR PCGQAGSGGRVASTWCAQ*QTPPGSHSP PTANREINPGPAAAADTRSCWGHKRSW RGWRGLAPWRLGFGSPWNSRDQGPAGI PAARRGGPTFGFLAHGPR*RRTPRDGRE GKGAGAKPSETLTRSPVVRGKRGSA NGFLSWVQILQYFAAGNGIWEMGRGLRI L
1810	9861	B	2760	1	1044	MGRNRSRKDENSKNQSASSPPKDRSSSP ATEQSWMENDFDELTEVGFRRLNQEEV ESLNRPIRGSEIEAIJNSLPTKKSFGPDGFT AEFYRRYKEELVPFLKLQSYEKEVILP NSFYEAIIIPKPGRDTTKKENFRPISLM NINAKILNKILANQIPQHIKKLNHEDQVG FIPGMQALFHIQESINVIHINRTKDKNHI IISIDA EKAFDKIQQRFMLKTLNKLDDMI VYLENPIVSAQNLLKLISNFSKVSQYKIN VQKSQAFLYTNNRQTESQIMSELPFTIAT KRIKYLGIELTRDVKDLFKENYKPLLNQI KEDTNKWKNI PCSWIGRINIVKRATLPK*

1811	9862	A	2761	1331	2175	TEPKTKTT*LSQ*MQKRPLTKFNNPSC*K LSIN/IVLEVLARAIRQEKEIKGIQLGKEE VKLSLFADDMIVYLENPIISAQNLLKLISN FSKVSGYKINVQKSQAFLYTNNRQTESQ IMSELPFTIASKRIKYLGIQLTRDVKDLFK ENYKPLLNEIKEDTNKWKNIPCSWIGRIN IVKMAILPKVIYRFNAIPKLPMTFFTELE KTTLKFIWNQKRARITKSILSQKNKAGGI TLPDLKLYYKAIVTKTAWYCYQNRDID QWNRTEP*EIMLHIYNLYIF
1812	9863	B	2762	1	2898	MRQKVNKDTQELNSALHQEDLIDIYRTL HPKSTEYTFFSAPHHTYSKTDHIVGSKAL LSKCKRTEITNCLSDHSAIKLELTIKKLT QNHSTTWKLNLLNDYWVNNEMKAEI KMFFETNKNKDTTYQNLWDTFKAVCKG KFIALNAHKRKQERSKIDTLTAQLKELE KQEQTHSKASRRQETKIRAEKETETQK TLQKINESRSWFFERINKIDRPLARLTK KRKKNQIDAINKDKGDITDPTEIQTII
1813	9864	A	2763	3	668	
1814	9865	B	2764	64	1242	MINS LGTKKLQDQTD SQPSSTRDDMIVY LENPIVSAQNLLKLISNFSKVSGYKINVQ KSQAFLYTNNRQTESQIMSKLPFTIASKII KYLGVQLTRDVKDPFKENYKPLLNEIKE DTNKWKNIPCSWIGRINIMKMAILPKVTY RFNAIPKLPMTFFTELEKSTLKFIWNQK RACIARSILSQRNKAGGITLPDFKLYYKA TVTKTAWYQYQNRDIDQWNITEPSETM PHIYHYLIFEKPKDNKKWGKDSL FNKWC WENWLATCRKLLDPFLTPYTKINSRWI KDLNVRPKTINTLEENLGNTIQDIGMGK DFMSKTPKAMATKAKIDKWDLIKLSF CTAKETTRVNRQPTWEKIFAIYSSDKG LISRIYKELKQIYKKKTTPTSTSG*
1815	9866	B	2765	287	898	MNINAKILNKILANQIPQHKKLNHEDQV GFIPGMQALFHIQESINVIHHNRTKDKN HIIISIDAEKAFDKIQRFMLKTLNKLDD MIVYLENPIVSAQNLLKLISNFSKVSGYK INVQKSQAFLYTNNRQTESQIMSELPFTI ATKRIKYLGIELTRDVKDLFKENYKPLL NQIKEDTNKWKNIPCSWIGRINIVKRATL PK*
1816	9867	B	2766	1	1443	MKLPEEASGSNICCYAIFAVLQPLLVIPK ETVSGVDLQQTPTDLQLSDLTPGRKTNK QKGIASPSTKRTSTPKPHLQANAQRFCF HQACVTRVPKGSTKHGKEQLVPATAKT CQIVKNINAMKKLHQLTEIQTIREYHKH LYANKLKNLEEMDKFLDTYTLPRLKQEE VESLNRPIMGSEIEAIIINSLPTKSPGPDG FTAKFYERYKEELVSFLKLFQSIEKEGIL PNSFYEASHILPKPGRDTTKKENFRPISLK NIDAKILNKILANRIRQPIEKLIHHDQVGF IPEMKGWFKCKSINVIHHNQNTNDKNH MIISIDAEKAFDKTQPPMLKTLNKLGTI RQKKEIKGIQLGKEEVKLSLFADDMIVY LENSIVSAQNLLKLISNFSKVSRYKINLQ KSQAFLYTNNRHMESQITSELPFTIDTKR IKYLGIOFTRDVKDLFKENYKLLLNEIKE DTNKWKNIPCSWIEESIS*
1817	9868	A	2767	1	966	
1818	9869	A	2768	1	216	
1819	9870	A	2769	3	2074	
1820	9871	A	277	721	1027	

1821	9872	A	2770	1	1632	MHCILPTPSGSGSPVYTSQSQPKTPGAF SGTLSVREPLSPEPDVLLPGSAKCAALC WVSVLDAAASPVTRWPVSRSPWECRCV PSPPVREAPVSPPFQCAPPYTDCLSPYL YEYTVCPSPCARVPIPSSTHPWEYKVPPP HAERLCPVSEDPCLCNWKTRAAGARES SLVPCPYAARYPPSPPRVAWSSHFSYRG LSPSLGPNKPGNPRGPSESPAAAAASRPRA AAASAPPPGAARLPASPTPRLARDRGVS
1822	9873	A	2771	842	2353	TEPKTKTT*LSQ*MQKRPLTKFNNPSC*K LSIN/IVLEVLARAIRQEKEIKGIQLGKEE VKLSLFADDMIVYLENPIISAQNLLKLISN FSKVSGYKINVQKSQAFLYTNNRQTESQ IMSELPFTIASKRIKYLGIQLATRDVKDLF KENYKLAPLIKEIREDTNKWKNI PCSWIG RMNIMKMAILPKVIYRFNAILIKLPLTSFT KLEKTTLKFIWNQKRARIAKSILSQKNK AGGITLPDFKLYKAIVTKTAWYCYQN RDIDQWNRTEP*EIMLHIYNYLIFDKPEK NKQWGKDSL FNKWCWENWLTICRKLK LDPFLT SYTKINSRWIKDLNVRPKTIKTP EENLGNTIQDIGMGKDFMTKTPKAMAT KAKIDK WDLIKLSFCTAQETTIRVNRQP TEWEKISAIYSSDKGLISRIYKELKQIYKT KTNNPIKKWAKDMNRHFSKEDIYAAKR HMKKCSSSLAIREMQIKTTMRYHLTPVR MAII/RIKSGNNRCWRGCGEI
1823	9874	A	2776	3	2077	
1824	9875	A	2777	3	1038	TAEGTWIAVRRRLRLEGTGGEMSRVPAFL SAAVEEHLRSSSLIPPLETALANFSSGP EGGVMPQVPTVVPVTKHRGYLGVMMPA YSAAEDALTTLVTLRGPRHHLRSSLP TRVIVVTLSPAMGTLLAVMDGKCS*IA KRTAAVSVCHLPPSFLKPPSSEVL CILGAG VQAYSHYEIFTEQFSFKEVRIWNRTKEN AEKFADTVQGEVRVCSSVQEA VAGADV IITVTLATPEILFGEVWVKPGAHINAVGA SRPDWRELDDELMKEAVLYVDSQEAAL KESGDVLLSGAEIFA*AGEK*FKGVKPS /YCEKTPRC SKSLGMAVEDTVAAQTHP MIPWSSGK
1825	9876	A	2778	2	2037	
1826	9877	A	2779	3	194	TFFQVKPDGTYVKPLSNKLTGYTMV FVRSFLVGEAARALS KACTIAIRYSAVR HQSEIKPG
1827	9878	A	278	615	2182	PQVIRPPWPKVLGLQGLLTFRDVAIEFS QEEWKCLDPAQRTLYRDVMLENYRNLV SLDTSSKCMKMFSSGTGQNTREVHTG TLQIHASHHIGDTCFQEIEKDIHDFVQW QENETNGHEALMTK/YQKVDECTERHD QRHAGNKPLKMSLDQAFIRICLKCTYFT PKGKLVIKLRLSTMLS/HVSASQRISCRP KTRISNKYRNNFLQSSLLTQKREVHTRE KSFQRNESGKAFNGSSLLKKHQIHLGD KQYKCDVCGKDFHQKRYLACHRCTG ENPYTCNECGKTFSHNSALLVHKAIHTG EKPYPKNECGKVFNQSSNLARHHRVHT GEKPYKCEECDKVFSRKS TLERHRIHT GEKPYKCKVCDKAFRRD SHLAQHIVIH TGEKPYKNECGKTFVQIHLVMHKVLA HTGEKRYKNECGKVFNHKS NLACHP* TSIPGRETTVRVMECGQG FNRRKSNLER HHRLHTGKKS*KC/EICKVFRQSSNLAC HHRLYTGEKPYKCEECDKS FQFQITP
1828	9879	A	2780	1	903	
1829	9880	A	2781	133	402	
1830	9881	A	2782	2	242	



1831	9882	A	2783	26	2229	RFRAGAADLDCHCHLGRCLLRQCLVVA MNPDLRRERDSASFNPPELLTHTLDGSPE KTRRRREIENMILNDPDFQHEDLNFLTR SQRYEVAVRKSAIMVKMREFGIADPDE IMWFKNFVHRGRPEPLDLHGMFLPTLL HQVATAEQQERFFMPAWNLEIGHFIAQ TEMGWHGTHLSRLSETTATYDPETQEFIL NSPTVTSIKWWPGGLGKTSNHAIVLAQL ITKGKCYGLHAFIVPIREIGTHKPLPGITV GDIGPKFGYDEIDNGYLKMDNHRIPREN MLMKYAQVKPDGTYYVKPLSNKLTGT MVFVRSFLVGEAARALSACTIGILYSA VRHHSEIKPGEPEPLILDFQTQQYKLFPL LATAYAFQFVGAYMKETYHRINEGIGQG DLSELPELHALTAGLKAFTSWTANTGIE ACRMACGGHGYSHCSGLPNYVNFPTSC TFEGENTVMMLQTARFLMKSYDQVHSG KLVCGMVSYLNDLPSQRIQPQQVAVWP TMVDINSPESLTEAYKLRAARLVEIAAK NLQKEVIHRKSKEVAWNLTSDLVRIAS EAHCHYVVVKLFSEKLLKIQDKAIQAVL KE/SLCLLYSLYGUSQWAGDFLQGSIMT GPQITPSNPV*RELLTLIRSDAVALVDA FDFQDVTLGSVLGRYDGNVYENLFEW AKNSPLEPKAEVHGIFTRHLEVHCQSQA LEVFRDCKFKSGFQKAPVWQLQILWESF SNSNRL
1832	9883	A	2784	61	241	
1833	9884	A	2785	60	341	
1834	9885	A	2786	70	428	IGGPQGFSPTPSLKPRPRIFKTPPIRGNWG PRPPPGVSPQFQGGDTKFNLEILFVVL TFSV*AQSGDPAAPPRSGP/RPGGRGERE G*NEKSPVLPQCWGGWRHPPSAALLW ALIW
1835	9886	A	2787	38	243	TPSTIDKSLTSLIKKKKA*INNFRDCKGN IAKDIPEM*KIIREYYENIHANTFENLGDI DKNKIDQN
1836	9887	A	2788	2	114	
1837	9888	C	2789	50	214	
1838	9889	A	279	403	933	QQRWQQGWQAWGGQPVQEVGFWF LLSWLLSRLLGVPAAQGPARGVDPRPGS RGARGGCSASAAPPARASPGRPCCWNG SRPPAQHRRTPATRVGEAGQGEVRGVR RLPAPLLQAVQPRLSDRSYAAPARPTA TSP/APPPSPAPKAPIVGALS*GTADPGSD SYPPSRSHAPRP
1839	9890	A	2790	1	624	
1840	9891	A	2791	2	851	
1841	9892	A	2792	1	1116	
1842	9893	A	2793	53	1408	HRCCLWTFQCLSISLGITFLIKEGKEGKL EPAREGPYLVLLTTETAVLLISITPTTNS NPTLERFCGLGAEVTGKDPMGFFKVLRLQ SLDADEGTAVDIQSFRPQKDFGRRRTLE ECHVTGKGGTGTKMSNRVVCREASHAG SWYTASGPQLNAQLEGWLSQVQSTKRP ARAIAPHAGYTYCGSCAAHAYKQVDPS ITRRIFILGPSHHVPLSRCALSSVDIYRTPL YDLRIDQKIYGELWKTGMFERMSLQDE DERSIEMHLPYATKAMESHKDEFTIPLL VGALSESKEQEFGLFSKYLADPSNLFV VSSDFCHWGQRFYYSYDESQGEIY*SI EHLDKMGMSIIEQLDPVSFSNYLKKYHN TICGRHPIGVLLNAITELQKNGMNMMSFS FLNYAQSSQCRNWQDSSVSYYAAWEHS RATEALNPQGCHLPSSYSVVRGSPA

1843	9894	A	2794	53	699	SLPSLTPPGSRQPPAGRLLNTEHHINEHIL MYSLDLNSSSQMPSIKAQTSDEIFEVD GEMPNHLLPIKAHVEDLGMDDEGDDD PVPPLPNVNAAILKKVVIQWCT/HPHKDD PPPPEDDEEQRSVPDDIPVWDQGIPIGK FDQGTLF*NSFLGLQTYFRTSKGLDVTCTC KTVQCYDQKGKLP*EIRKPPFKSKMTFT EEEEAQVRKVENQWCEEK
1844	9895	A	2795	162	522	WVRRGTISPARQRQDGVGAAPANYAKV LEWQLAPSPRHKQQRPGTHLGCDSIGP LSPVGLPGLKG*PDNSSEGCPS/QALPVP SSPGHPGSGGPKGQARSLLNCRGCPINW QHRCCRKI
1845	9896	A	2796	2	1214	QPFQSGSCVAILGRKMFSSVAHLARAN PFNTPHLQLVHDGLDLRSSSPGPTGKP RRPRNLAAAAVEEQYSCDYGSGRFFIL CGLGGIISCGTTHTALVPLDLVKCRMK VDPQKYKGNFNGFSVTLKEDGVRLA KGLAPTFGLGYSMQGLCKFGFYEVFKVL YSNMLGEENTYLWRTSLYLAASASAEFF ADIALAPMEAAKVRIQTQPIGYANT*EGI SFPKCIKEKGLKAFYKGVALLWMRQIT YTMN*SSPCLERTV*SHCTSLGVKPRSE VCSKPEQTGCNHLVAGYIARVFCIVSH PC*FVWYLVLNKE*SVAVSLLVFSVTL FKGVWKGLFARIIMIGTLTALQWFIYY SVKGYFRT/LPRPPPPRDGQSLNNKFGL TPVVRSKQIVD
1846	9897	A	2797	276	728	CFGFVFPSPWPYGPLSTGDVPLGPPN* AMGGFRPGKQVSLPGFAGGHACSPAS LPSGPGPAPPRACLPSPRGGRKSLGAPGG FPPGDSHGAPCSRVTTVSPGNDLKPGHS PRTLQRGGSLPGRRWVWSCGVVCPVW WPVLSASISGWI
1847	9898	A	2798	451	1030	VPEALSPFEMEGPQFPTMCCCSAPPAMP FPTT*QPSEAAAGQGVPGPHRL*GGLAP AGRS*APAGAFWGGQPAQRGEPAYSSK GGAAASTQRVL*HRRGHRGDASRGCP GDQNLQ*KLCSSRAEGGAVSQPGWPAL PHAAGEPLASALPGLHAAQAPAPAVVSG PTTIRSCSGNSGKIFPSSCLDSCFPFS
1848	9899	A	2799	1	933	
1849	9900	A	28	1230	1820	QEYRPSQTPHLALSPERVAPGRRRAAGRL APEARAPRGSP/LPPHRVSEKTIRVVVFH PGARKAGGTPPRAPRGDTGGAPGAPTY STPLMSLHRARLESSSTGSSFPADSAPV PLAVVSLDSR*QWESRSSIHAIVTN*AS SSSSSSSSSVSRVYPRFIEFLHFDIQSTG Q/RITSRQHPPR/DLRDALF*LNSRIPL
1850	9901	B	280	73	207	ELGTQLRTCTLSGLASQVEAHHSLVLS HLKTLWKKISNTKYS*
1851	9902	A	2800	1	1563	MRREGFKFSRSKVFVQDEMTKKWHKSD LHWVSRIQCTVLGVLTNATEMRSLPIES LFLIQCFVVSGASRNEATDCSGECYSSM RETRGSKECAAARFIKVKGVQKQVESY KLYHPYFLANWFSASFVKVGLVEMRG QEEETLGTFAHVLMFQAASSRALVLPPT MQLELQNFNTCSYRKPNMASSMRSLF SDHGKYVESFRFLNHSTEHCQMQUEFM DKKLPGIIGRIGDTKSEIKILSIGGAGEI DLQILSKVQAQYPGVCIQH*SCLRPSAG TNWPNYKELVAKTSNLENVKFAWHKE TSSEYQSRMLGEKGAFKSWDFYSI*FKM LYYVKDIPATLKFHSLGLGTNAKMLIIV CVQGSSGWDKLWKYGSFPPQDDLC QYITSDDLTQMLDNLGLKYECYDLLSTM DISDCFIDGNENGDLLWDFLTETCNFNA VAPPDLRAELGKDLAQEPEFS/ALRKEG KVLFNNTLSFVIVIEGITIQSQYIQKLYFE

						QLESLIYFHIKITNSSH
1852	9903	A	2801	1	6750	
1853	9904	A	2802	3	91	KKNIN*EILN*KQMEEPTLYVGNFPIQLT
1854	9905	A	2803	3	7501	
1855	9906	A	2804	3	3223	PPPEAAVVAFEWLKSTLTGLHPQLPLSL PQPECALPYLVRAFSRGDYMGRIQEVG WVTAGLVIWAGTCYIIYKFTKGRAQSV RTLARNGSTVKMETVVGVSQTLAINEA EIKTKPQVEIGAETGARSGPRAEVETKAT AIAIHRANSQAKAMVGAEPETQSESKVV AGTLVMTEAVTLTEVKAKAREVAMKEA VTQTDAGKIVKKEAVTQTKAKAWAL VAKTEAKREAMTQTKAETHILAEKETEI NRVMV
1856	9907	A	2805	1	374	NYFLSLRFDWHSSKS*GHPTCVHCF*/TK NE/CASCHCGAGLLGFLGSGEGASHPC PSCLPLEYRSLHCSLGHCGECMPGASGW GPWTGPGHCPNLCQDKGSKRISWRVGR NGWGRPSFDNAPVAL
1857	9908	A	2806	162	789	AGQNGVSGSAERCLSLLIPLALWSIENI LLYIPNGHTFYASSNKLNTNYVWYSERI*L SGIMMLIVTTVLLVLENNNNYKACQSE NCSKKYVTLLSIIFSSLGIAFSGYCLVISA LGSCP*AIC/LAPLMGWGVCF*RALLGRF LTDSSIWDSVPGNLAHVVEWNIILFSILIT LSGVQVHICLIRVVMQLSKILCGSYSVIF QPGII
1858	9909	A	2807	1	3282	
1859	9910	A	2808	136	447	
1860	9911	A	2809	3	3593	SSDPRPSSFVLVWVGLWSMVWRVPFPL LPILFLASHVGAAVDLTLLANLRLTDPQR FFLTCVSGEAGAGRGSDAWGPPLLEKD DRIVRTPPGPPLRLARNGSHQVTLRGFSK PSDLVGVFSCVGGAGARRTRVIYVHNSP GAHLLPDKVTHTVNKGDТАVLSARVHK EKQTDVIWKSNGSYFYTLDWHEAQDGR FLLQLPNVQPPSSGIYSATYLEASPLGSA FFRLIVRGCGAGRWGPGCTKECPGLHG GVC
1861	9912	A	281	276	565	WTSSVSTGQSDQA/GPAPALIQMQRPGC GPSPVPGGWLE*RDGQAGMGAAPAA WVLLCIPAGQGPLPGPRLPFHILKFCYC GILVEKKEPRGCF
1862	9913	B	2810	85	283	MEKTELIRRSARWRVISSIEQKTDTSKKL QLIKDYREKVESELRSICTTVLELLDKYLI ANATNPEX*

1863	9914	A	2811	1	932	KAKSRSEVGLASRPRRRGSSRGSSRCG SALALALLALRPGPGPGAPAMEKTELI QKAKLAEQAES/RYDDMATCMKAVTEQ GA/QSLSNEERNLLSVAYKNVVGRRS A\WRVSKHPSRKTDTSDK\KLQLIKDYR EKVD\SELR\NCTTVLGICLDKYF/ILANG NLIPESK\VFY\KMKG*FTFR\YLCLEVA CCADDRK\QTIDNASQGAYQEAFDISKK\E MQPTVHPIRLGALLLTFSVFYYE\LNPE AC\HAWLKTA\*WRAIA*LDTLNEDSY KDSTLIMQLLRDNLPLWTSDSAGEECD AAEGAEN
1864	9915	A	2812	199	214	PPSPLNSSTCCLAKTDEK*CKEKGSHLLH
1865	9916	A	2813	1	2176	QGPKLFMDAGIEVFSQDEWKCLDPAQRT LYRDVMLENYRNLVSLGICLPDLSVTSM IEQKRDPWTLQSEEKIANDPDGRECIKGV NTERSSKLGSNAGNPKCKNQLGFTFQLH LSDLQLFQAERKISGCKHFEKPVSDNSSV SPLEKISSSVKSHLLNKYRNNFDHAPLLP QEQKAHIREKAYKCNEHGQVFRASASLT NQVIHNADNPYKCSECGKVFSKSSKLV HRRMHTGEKPYKCECGKLFSSNSNLSQ HQRIHTGEKPYKCECDKVFRSSSKLAQ HQRIHTGEKPYKCECDKVFNQIAHLVR HQKIHTGEKPYSCNCKGKVFSRHSYLA HQT\VTGEKPYKCECGKAFSVRSSLIT HQLIHTGRKPYKCECDKVFGKRCFLT HQRIHTRERPYGCSCGKIFSQKSD\*R HRKTHTDEKPYNGNCKGTA\REFSDLT HFLIHSGEKPYECKEKGKVFYKSSLTSH HRIHTGEKPYQM/CNRCGKVFSRSSNLV CHQKIHTGEKPYCNQCGKVFNQASYL TRHQIHTGERPYRCSKCGKA\FRGCSGLT AHLAIHTEKKSCHECKEKGKIFTQKSSLTN HHRIHIGEPYKCTLCS*GLSVTILTLHSF RGFHHGEPYKLC/DGKTIIMSSSINQHQ* VHTKW\SYK*NVCDTGFIKACQITGHHH ITVEDESTQMNCVYLGYYSTIAEHDR YTRSNSVSGSLILIYDIA
1866	9917	A	2816	26	736	EPIPVTPDHLVMTMTHIVANLLSCQQRPR LPNYEMLKEEQEVA\KGAPQKPLPEC PPVIH\IRNETSWPDHVRLVPVQ\HPLHE HLLRLGFIRFA\YSVKS\LRDRK\MVGEVN RGPKA*CLHRQSA*KIWGP\DFG\HLHEPI LAHQSSPPKFWVVPGPANDREASLRPG ALPVT\CPRTLASSIPRPAPRGQEV\PLTCI PLTPPSIPRPVPTAES\CSPLSSHAFLQWH SIKCICFW
1867	9918	A	2817	748	1637	DIMESGFTSKDTYLSHFNPRDYLEKYYK FGSR\HSAESQILKHL\KNLFK\VFCLDG VEGETCLNDIGFWAPLILSSSSSCFVESF* GRIVRSLDYFR\TQEPGRELGRK\WLEGKE ARGLFDWVPPMVTMCLNLERETE\VKG PRRRRK\K\QAVKARCLKM*M*TQKPS HLGAVPLPPG*TAVPQAHLCLGCPPCPR PPQPTCKGASGTLGQPYLKPRGPSLVIM DAAQEPTYMIGE\QKFS\SLPLGREAVK AAVKEAGYTIEWFEVISQSYSSTMANN EGLFSLVARKLSRPL

1868	9919	A	2818	1	1538	MENPIVKS LAKARERLED SKLEAVSDNN LELVNEILEDITPLINVDENVAELVGILKE PHFQSLLEAHDIVASKCYDSPSPSEMNN SSINNQLLPVDAIRILGIHKRAGEPLGVTF RVENNDLVIARILHGGMIDRQGLLHVGD IIEKVNHEVGNNPKELQELLKNISGSVT LKILPSYRDTITPQQVFVKCHFDYNPYND NLIPCKEAGLKFSKGEILQIVNREDPNW WQASHVKEGGSAGLIPSQFLEEKRAKAFV RRDWDNSGPFCTISSKKKKKMMYLT RNAEFDREHEIQIYEVAKMPPFQRKTLV LIGAQGVGRRSLKNRFIVLNPTFGTTVP FTSRKPREDEKDGQAYKFVSRSEMEADI KAGKYLEHGEYEGNLYGTKIDSILEVVQ TGRTCILDVNPQALKVLRTEFMPYVFI AAPELETLRAMHKAVVDAGITTKLLTDS DLKKTVDDESARIQRAYNHFYDLIINDNL DKAFEKLQTAIEKLMEPQWVPISWVY
1869	9920	A	2819	1	1749	EFVLNYPEPRVCRWGCSAAPVAEGEQR RGATSGSGSGGAEAAEVRAAMQQVLEN LTELPSSTGAEEIDLIFLKIMENPIVKS AKAHERLED SKLEAVSDNNLELVNEILE DITPLINVDENVAELVGILKEPHFQSLLE AHDIVASKCYDSPSPSEMNNSSINNQLL PVDAIRILGIHKRAGEPLGVTFRVENNDL VIARILHGGMIDRQGLLHVGDIIKEVNGH EVGNNPKELQELLKNISGSVTLKILPSYR DTITPQQVFVKCHFDYNPYNDNLIPCKE AGLKFSKGEILQIVNREDPNWWQASHV KEGGSAGLIPSQFLEEKRAKAFVRRDWDN SGDELDTIKFDRHEIQIYEVAKMPPFQR KTLVLIGAQGVGRRSLKNRFIVLNPTFG TTVPFTSRKPREDEKDGQAYKFVSRSEM KADIRAGKYLEHGEYEGNLYGTKIDSIL EVVQTGRTCILDVNPQALKVLRTEFMP YVVFIAAPELETLRAMHKAVVDAGIHH PRL*PNSDLKKTVDDESARIQRAYNHFYD LDPSINDNPRPKPFELQTAIEKPENGPP QWVPQSAWVYLMIQ
1870	9921	A	282	1466	2353	RNVHLNLLIHFILYFKINVFHIDFPLGGEK NSGVLGFQAVQKQPRGSFPLPRIPQ*QN LRIGI*KGRRGPGSGPWPAGDTQQHPSK GKGLPPLPACPSL**QQGRRCSGPGGRL GS*GCKHPECQWSQRGVRPLSVPLFQPP PGTGAGPTSWASASGSGAGACQPGS/PL GSVHTGSPSQAKSPSRVK*QECQHPTH VSSPVSRPGFPLPGVGNRAGPAAPSPP RDTPAAPPPRPGPPSPGSLAQDAPGRSLP PPRTRRPAQSPRPRSASESEAARRGPVR RSRTGREEKSG
1871	9922	A	2820	14	230	FATLYPLKIFIPKAFNPWREVGPLCPPPK /CKGPSKSPGW/CLNRPPIGKKLIPCKPR LTWAPPRIL*NGPP
1872	9923	A	2821	170	303	RPLRGTPC*CAAWASSWWGCCSACCSH CCLLGPCWHSGPCSA*WAFWCSGG
1873	9924	A	2822	208	547	AAPGAMGPWPDRLCGSALPSCRLPCYSS ASVSLRCAAENTFTQAGPCCWAWPHRA HQDFLQIPFRHLEAPRCSPLSAWPPRH LLPAGDPLDQEQPPGIRGAP*RPLRGTPC CGSCGVAAGVRGCGPVWL*HPEPADSH TATAEPRI*AAPGAMGPWPDRLCGSALP SCRLPCYSSASVSLRCAAENTFTQAGPC CWA WPHRAHQDFLQIPFRHLEAPRCS PLSAWPPRHLLPAGDPLDQEQPPGIRGAP LSLRRRLLL
1874	9925	C	2823	48	173	MVRKRMEMKMRKLSQLRASGQLKMM RMXMSIPRSRRPRGIX*
1875	9926	A	2824	183	423	

1876	9927	A	2825	147	588	TLAFLIPICIGSPACPTMSDAAVDTSSSEIT TKDLKEKKEVVVEEAENG/REDRPCLTG NAENEVENGEQEA*QLR*DEE/EREGRLG REGGREGRKEG*LVEEEDGRLKIEEAES ATGKRATEDDEDDDCRYQSRRPDEDD LDSKKAKS
1877	9928	A	2826	1	77	SGRPFFFFFFF*CKGFLIGYM
1878	9929	C	2827	175	351	MKLIQLSCQPFNSRHHVLKKKPLTFMILS HFQASLSSIFGFCSSLFRQSSFFSNILFF*
1879	9930	A	2828	56	380	KYLVDQHAGSPPVKNLAEAVQNVQIL H*EIQKSVNHRMYL*KLDTDSL**FIQLQ VEPTILGIKVDVYKHEYKDKDGHSDFSNY SSHQVFFLLIFNKDNMAIN
1880	9931	A	2829	3	129	
1881	9932	A	283	134	385	CQIMDGMALAIQAWPTPQQVASNGTGLN PNAKVWQEAPGNTDTPVTHGTESW HEIAATSGAHPEGNAEPQKIYVKNMK*C I
1882	9933	A	2830	472	756	SSADSKCTLTIGKPAKSRVQLCHKEETFP NQTNAYRTCVD*CLMSPTLLGTSIF*SQ MIIRVVPICMPNIFLIISC*VLCIRKPVSEL PHLLGF
1883	9934	A	2831	1	170	
1884	9935	A	2832	1243	5595	
1885	9936	B	2833	2177	3174	MGKTTPMIQSRPSFDTWELQVPPSTCGD YNSSFIKELRASQSNVIKPPGPVKLKESV VENHAYLSYAVEEEHAYLGPTVKPDDK AKTLSYEPLSSATVSTGSLLSYENTDLSL TDPESFSEHMDDSKQESTTSKEEETNISS IVPSTQDIYQRQNSSDVHKSLLPAVDETT CGHTHFQQMIDKALYQSGKPETGHGIME EPELTLISTDTSIAEMDFANLTLEEKSEN EAKCFFQSKTRLKRLKRVKHATFLPLA TEASDYPVAVSELSIEKPRTASTETPRRLTP VPGSLQEAFIGKRRKSFMERSHQRQKEIR NKIHVSENSQIKTVKEKPSISSIL*
1886	9937	A	2834	2268	2547	KYLVDQHAGSPPGKSLCCLEKSQRMMM ISQNLDVVLRV*TADDAN*EKCVPIANL FFQVSNLLH*VLVYHLLKVCVTTCFSIH CRQQRFMNV
1887	9938	A	2835	137	716	TTTMSKKAKTKTKKRPQRATSNVFA MFDQSQIQGVQRGPFNMIDQNRDGFHS DK/EKVLHDLAISLGKNPH*WHYLD MMNEAPGPIQFSPCFLATLFG*GSLNGHQ IP*RCSFRKRLAFALDEEATGHPFREDYL /REELLTNPWGDRVYQIEEVG*TCTGEAP I*QKGGNSNYHRSFTRHPNWKAPKAQR
1888	9939	A	2836	2	437	LVIIESDLERAERAELSEGKSDSWKNN* E*WIRP*KH*WLQRISKCAELEELKTVT NNLKSLEAQAEKYSQKEDRYEEIKVLS DKLKEAETRAEFAERSVTKLEKSIDDLE DKFLCFTSPKTPSSSWMSHLSELCLFSS
1889	9940	A	2837	1	834	GSRVRRAAAGLSHCSPPARLP SGAMAGS SSLEAARRKIRSLQEQADAAEERAGTLQ RELDHERKLRETAEADVASLNRRRIQAW EEEEFGFVPKERLATAFIQLAEAEKAA DESERGMKVIESRAQKDEEKMEIQEQL KEAKHIAVEDADRKYEEVARKLVIIESDL ERAERAELSEGQVRQLEEQLRIMDSDL KALMAAEDKYSQKEDRYEEIKVLSK LKEAETRAEFAERSVTKLEKSIDDLEKV AHAKEENLSMHQMLDQTLELNNM

1890	9941	A	2838	9	1108	PDRATRPRPRARPADPALVLGPLAAVMTM GAGKKKMRMLKLDKENALDRAEQAEA DKKAAEDRSKQLEDELVSQKCLKGTD R*TGQIL*RLSKMPKEETWNWQEKKATD AEADIVASLNRRIQLVEEELDRAQERLA TALQKLEEAKEKAADERSERGMKVIESRA QKDEEKMEIQEPT*KRAKHIAEDADRK YEEVARKLVIIESDLEPCRGSGAELSEGK CAEA*KEEFENL*PNNFEVHLEGSRLRK YSQKERPDMEEEIKGFFPDKA*RRLETR AWSFAERSVT*NLEKSIDDLLEDRAVTL QETEVQSHQRRSWDHALNGYDFHISFFA SLLPRLPRRSWMSHLSELFHLSYSPADPG SLS
1891	9942	A	2839	3	268	
1892	9943	A	284	305	1129	DICKEYEVMYSSSCETTRNTTGIEESTDG MILRPEDLSYQIYDVSGESNSAVSTEDLK ECLKKQLEFCFSREKLSKDLYLISQRDSD QFIPIWTAANMEEIKLTTDPDLILEALRS SPMVQVDEKGEKVRPTHKRCIVILREIPE TPIEEVKGLFKSEYCPKVISCEFAHNSD WYITFQSDTDAQQAFKYLRKEIVKQFKA RPILAGIKAINFFC*EWSSNNGILESIVHP I*TAQYASPVFMQPVYNPHQQYSVYSI VPQSWVSKSYTLL
1893	9944	A	2840	500	682	
1894	9945	A	2841	1617	2086	GLAASSRKHQMVDADAVGGPGGPGM AGCDGLPGFGSDIRPRLWLWLGPRWL SS*RGTNILASVPKKLLM/DCYALARD RTATLGTFDAISKATSNWIPDLWKETVF TKFPYQETDHL/VKTHTRVSKQKTQVP AVATTAARQTMEGQAPVEYI
1895	9946	A	2842	55	665	AMAEDHGLSNGDGPVEVTQGLELLVSA AAQDIVLLDGIQGLFLTQFDNIWVWDH FLGKLPHRVFKGGGEKQHLAVPGQHPL DADALILVALSGYHDSLIQNKHLDLFI NELDLEHQSSSTVPGVPMTICSLIFWPLSN LLPRTA*ASFSSG*NLPICSITFPV*SASSY VGERHRHWGYLSDGSTRLSMAKTKAA VLPVPD
1896	9947	A	2843	43	548	
1897	9948	A	2844	1	876	
1898	9949	A	2845	222	482	
1899	9950	A	2846	3	218	SLFQLKTTKTQSRVMGAIYDSSWFQEDR QAAERFTDRSTHLRLRNAEAAA*TKPAQ GPGSIPILPATPSSL
1900	9951	A	2847	322	452	LCCSI*IYLN/NLLIC*QSFSVLK*DFRVD* KKKNPRMSHRVLNI
1901	9952	A	2848	3578	5288	TESREHFSPWYSVTAARRPQVASKAEEN LLMVLGTDMSDRRAAVIFADTLTLFEG IARIVETHQPIVETYYGPGRLYTLIKYLQ VECDRQVEKVVDKFIKQRDYHQQFRHV QNNLMRNSTTEKIEPRELDPILEVTLMN ARSELYLRLKRISSDFEVGDSMVS*E VKQEHQKCLDKLLN*LAFLSCYHGREL GLYVTMEEYFMRETVNKAVALDTYEKG QLTSSMVDVFIYVKKCIGRALSSSSIDC LCAMINLATTELESDFRDVLCNKLRMGF PATTFQDIQRGVTSVAVNIMHSSLQGGKF DTKGIESTDEAKMSFLVTLNNEVCSENI STLKKTLSDCTKLFSQGIGGEVQAQAF DSCLSDLAAVSNKFRDLLQEGLELNTST AIKPQVQAWINSFFSVFHNIIEEEFNDE ANDPWVQQFILNLEQQMAEFKASLSPVI YDSLTLGLMTSLVAIVELEKVVVKSTFNR LGLQFDKELRSLIAYLTTVTWTIRDK FARLSQMATILNLERVTEILDYWGPN GPLTWRLTPAEVRQVLALRIDFRSEDIK

						KAALVS
1902	9953	A	2849	233	801	VVTLTGSNLYFYCSLFHFSVLPDQDVS LV*ICYLSLPLDIVCFCNVKIQFFFLSLESYY *FLTIFPHCFYFLLKTPFKHRELFILVFG LKIFQ/LC*FFYLILLRFFYFNFCLLDLF LFWIFIWYFVIFACSWFIGVSLKFLLVPL/ CSFFLCRHSPLF*GAS*TDLVILGCIPFP* VCLLWEFCGGL
1903	9954	A	285	1053	1403	TFTQDSAGSLVVHSPMTSIWKTAE SVDQGHFPIHILFVYLLFETGSHSVTHAT MQWCDHSSLQPQTP/SGSGDPPTLAC*V PGHGMCHHTWLIFTPFAETGSHHVPR LVSNP LA
1904	9955	A	2850	170	494	
1905	9956	A	2851	70	1474	RESGTWQPGKAGTQTGAKFWEVISDE H GIDPTGTYHGSDQLERINVYYNEATG GKYVPRAVLVDLEPGTMDSVRSGPFGQ IFRPDNFVFGQSGAGNNWAKGHYTEGAE LVDFVLADV*RKEAES*DCLAQGFQLTHS LGGGTGSGMGTLISKIREEYPDRIMNTF SVVPSPKVSDTVVEPYNAILSGHQLVEN TDETYCIDNEALYDICFKTLKLATTPFG DLNHLVSATMSGVTTCLRFPGQLNADL RKVA VNMVPPRLHFFMGGFAPTDQA GASQASTRALTVPRSSPKQMFDAKNM MAACDPRAWAAYLDGLPPCFRGPHVPL KEVDEQMLINVQKQKQPAIFVEWIPQQ CEKRAVCDIPHLRGLKNVRPPSFGKQAR PIPGAFSKPHLPKQFHGPCFRRKALPSFIT GEGMDEMFEFHRPESNKNDLVSEYQ QYQDATAEEVEGEFEGRSLGRKVA
1906	9957	A	2852	284	359	QQEANPSAPLQHVSTSN/CVLTCCKGA EGLASCCYCHCLCNECCQGACGPDTHL AHCCRCQHSSKPPGGPRI/ASTQTCYY*C PCRLPGGSR*CLASCPYHWCPTSLPG SPVPNKAPP
1907	9958	A	2853	295	478	
1908	9959	A	2854	1	1167	



1909	9960	A	2855	3	1328	SGILGTTTSPFPVGVVLRVECPLCPGPAP MSVPAFIDISEEDQAAELRAYLKSKGAE ISEENSEGLHVDLAQIEACDVCLKEDD KDVESVMNSVVSLLLILUEPDKQEAALIE SLC/EKLGPNFREGEPPRLRLQFVKATF STGMD*EILPVKIHVSICSLNKKVAAASCG AIQYHPQLEPGIKFRKWDFLNWNLTG KKSTPLLKTTFMKALVDCKKSDAASKG MVELLGSYPGGQCFPRARVDAHRICIV RALKDPNAFPFDHLLTLKPRQVFWKGE LI/HIVPF*PNFVSA*MGHHMSRFYPD*LR TFH*IPLGPTMDPGIWPCKMRLLFLLWG MGQ*ENR/EISFWTTPARNFRIGADDIV EAFVIDAGKELKMVYQCNWSRPQRKVV VSHSTHR/TFGKQQWQQTV/YDTLNAW KQNLNKVKNSLLSPSGYLKFLCL
1910	9961	A	2856	377	2393	FSLECLGHENR*D*ITIYKITS LGTGKVFN KIQHPFTIKNKK*KTLNKL GIEGNFLNLK GIYEPMVSIILNGEGLDYFPLRSETROG CLLWPLFN/IVLDSQERAIROENKIKVI* VGKEEV*LNRMGDDMVVLCIVIQGKI* KIQRDLLINKFSKVTGYRI/NICRKL VIF HI*YQLNKSQNDVKKTI*FSTMVKGGL C/RVIPTLWESEAERLLEARRPAWETVRS HLYKNKQTKNNKQTKN/TLDVMTLICRL SYSEAEV*GWLEPQSSKLQ*AITGSLQSS LDRQS*TLTQKTKKKRKKLTASERVKY QYN*GSRNID/PHLSSN*LENSA*GQFQ WGGKIVFFIK*CLETWISTWQNNGNWDS YLILHIKINSELT*DLNVRANIVSIFKEN/M GVNLSDFELGNDFLNK*/PLKTQATKEEN R*IKIKTICVSKDNKKAKIQPTE*DNFF*N HVLVKG GICI*NM*RTVTIIKRHIQFLKI QQGVWN*QFSKGGYT KGPLRHMEKVSQ PSLAIREMQMRSTMRYHLTPLE*IYNQS DNIKCW*GCREIGTLMHCWWYPRDIKT NVYTKTCAQMFLPALFI*AQK*NGP*FLS LTSALTKTWHIHT/MEYYSSQ*KKEMKV LIWPPTTMEKPLEKPYPSEECPRHERPTY YMISIYMKCPRTGEYI
1911	9962	A	2857	3	445	GEFADSF/SSMGSPVNAQDFCTDLAVSSA NFIPTVTAISTSPDLQWLVPALVSSVAP SQTRAPHFPGVPAPSSGAYS RAGVVKTM TGGRASIGRRGKVEQETDQLEDEKSAL QTEIANLLKEKEKLEFILAAHRPACKNPD DLGFPE
1912	9963	A	2858	295	1622	DEMSVAGSFLTAACGTGNSPHLCPEHA RSRRLSPSVLF*DFCTDLAVSSANFIPTVT AISTSPDLQWLVPALVSSVAPSQTRAP HPFGVPAPSAGAYS RAGVVKTM TGGR QSIWQEGARWEQVRNF*RTLPGNVGAG WEAAPEMQEPSTEDEAT*WGLLAHP*LG ALAPSPFHPNSDSEFSP*EVLS*FLP*VSY RMLSDWALLCSLAEDLILNASHT*SATA GQKWFHSGVPGSREAAGASSTGVGEWR *WQTLNLLNVGLFL*LF*LSPEEEKRRIRR ERNKMAAAKCRNRRLTDTLQAGRYS VGCSFLKLGKVGRLHKGK*VRLCLYA FPLSLCIQETDQLEDEKSALQTEIANLLK EKEKLEFILAAHRPCARFPDGGGAFPE EMSVASLDLTGGLPEVA/TPESSEAF/TLP LLNDPEPKPSVEPVKASA

1913	9964	A	2859	3	1467	PHLQRATEKPRLSRRPRRSEAVTVLLPS SASQRPPVSAPRPLARLCLTATMMFSGF NADYEASSSRCSSASPARD\SLSYHSPA D\SFSSMGSPVNAQDFCTDLAVSSANFIP TVTAIST\SPDLQWLVQPALVS\SLWAPS QTRAPSTFSESPPPTAGAYSRAGVVKTM TGGRAQSIG\RRGKVEQLS\PEEEKRRIR R\ERNKMAAAKCRNR\RR\ELDTLQA\ ETDQLED\RKSA\QTEIANLLKEKEKLEF/ LSLAHR\PA\CKIPLIDLGLPRKEMS\VG S\DLTGGLPEGS\TPESEEAFTL\PLNDPE AQGPQWEPVQGGISRHGS*KDRGPFDDF LFPSIHGPGSGFLRTARSVPDMGPILGPF YGRQIRGAFSHSGSLGMGAHGHRGWEP LCTPVVTC\TPSCNCLHVFRFHLPRG*LL PQLCSCPPQGGQQQ*AFL*LAQLTHAAG PVRGQGRGGRHPQVPLPELVHYREEKH IFPRGFL
1914	9965	A	286	259	506	PGYRRGHGGAAGRQEPAAARHNPAVRE DADGGD\RPRSAACPGTSTAPPGT*GS\G QAHRDGARPAPAPRPSHPSAGPAAGPSG
1915	9966	B	2860	1	196	MAEGNHRKKPLKVLES LGKDFLTGVLD NLVEQNVNLNWKEEEKKKYYDAKTEDK VRVMADSMQEKQX*
1916	9967	A	2861	1	988	MGSLEGNHRKKPLKVLES LGKDFLTGVLD DNLVEQNVNLNWKEEEKKKYYDAKTED KVRVMADSMQEKQRMAGQMLLQTFN IDQISPNKKAHPNMEAGPPESGESTDALK LCPHEEFLRLCKERAEEIPIKERNNRTR LALIICNTEFDHLPPRNGADFDITGMKEL LEGLDYSVDVEENLTARDMESALRAFAT RPEHKSSDSTFLVLSHGILEGICGTVDH EKKPDVLLYDTIFQIFNNRNCLSLKDKPK VIIVQACRGANRGELWVRDSPASLEVAS SQSSENLEEDAVYKTHVEKDFIAFCSTP KYSWCCHLEEVFRKHCSQ
1917	9968	A	2862	12	914	GSFQRCKKGQRLFPMAEGNHRKKPLKV LES LGKDFLTGVLDNLVEQNVNLNWKEE EKKKKYYDAKTEDKVRVMADSMQEKQ MAGQMLLQTFNIDQISPNKKR**IGVTE AEITIVYLQYPAHPNMEAGPPESGRIL PDCLKLCPHEEFLRLCKERAEEIPIKER NNRTRLALIICNTEFDHLPPRNGADFDIT GMKELLEGLDYSVDVEENLTARDMES ALRAFATRPEHKSSDSTFLVLSHGILEG ICGTVDHEKKPDVLLYDTIFQIFNNRNCL SLKDKPKVIIVQACRGEC
1918	9969	A	2863	12	1353	GSFQRCKKGQRLFPMAEGNHRKKPLKV LES LGKDFLTGVLDNLVEQNVNLNWKEE EKKKKYYDAKTEDKVRVMADSMQEKQ RMAGQMLLQTFNIDQISPNKKAHPIM EAGPPESGESTDALTLCPHEEFLRLC*RK ELKEIYPIKGRRKQPHTAGLFFI\CITEFDH LPPRNGADFDITGMKELLEGLWDYSV GVGRRFLTARGMDSALRAFATRPEHKS SDSTFLVLSHGILEGICGTVDHEKKPD VLLYDTIFQIFNNRNLPQV*RDKPQSSI VQACRGANPSGN*WVRDSPASLGKW PSSQSSGEPWRKDAV*QDPHV/ERRDFIG FPGSFKRPHNRAPWERPAQWGSIFITQ\LI TCLPRNIPWCC/HTLEEVFRKGTAHLETP R\AKAQMP\TIERTVR*QGYFYLFPGEFE NWEHGKQPSPSLNPTFKEAPFFVTACIF
1919	9970	A	2864	66	392	
1920	9971	A	2865	131	551	KIRGVSCPSAPKSGEQTGQHHNINTGFHP LPLGAVTSPVPQGGDRLCPPSSPEPAQ PAQ/C*PCSDSGRSPGPGKAWTVAPC\ PEPSVFLQSPGFEPWVLAHPSSERR ASSSGLDDDLPAQETGNGSGATRTCS

1921	9972	A	2866	943	1109	LMVLSDFIFKLKI/WPGAVAHACNLSTLG GRGRWIT*GQFETSPASIVKPPSLKI
1922	9973	A	2867	112	1078	ESSRQALLAKPLSACAEQPARAEVGAAT ALPVRWASGEMAPSGSLAGPLAALVLV LWGAPWTHGRRVTNVRVITDENWRELL EGDWMIEFYAPWCPACQNLQPEWESFA E/WGEDLEWNIKVDVTK/QPGL/SGRFII /TALPTIYHCKDGEF*AVIQGPRTKKDFI NFISDKEWKSIEPVSSWFGPGSVLMSSMS ALFQLSMWIRTCHNYFIEDLGLPVWGSY TVFALATLFSGLLLGLCMIFVADCLCPK RRRPQYPYPYPSKKLLSESAQPLKKVEEE QEADEEDVSEEEAESKEGTNKDFPQNAI RQRLGPSLATDKS
1923	9974	A	2868	1	448	
1924	9975	A	2869	1	536	
1925	9976	A	287	1	2072	FRRSPSPAASVSLGLGVAUVSSLVNGSTF VLQKKGIVRAKRRGTSYLTDIVVWAGTI AMAVGQIGNFLAYTAVPTVLVTPGAL GVPPGSILASYLLKEKLNILGKVGCLLSC AGSVVLIHSPKSESVTTHAELEEKLDQS RVGGLPCASLLVMLAAHLLDPCRPMG PPTSWSTSASAPCWADTPCLPPRASGWR PKTSCITTRPVREPSACAWYSWPCSA SSSSSGTRNKALECFDSSVFGAIYVVF TLVLLASAILFREWSNVGLVDFLGMACG FTTVSVGIVLMRVFKEFNFLGEMNKS DTWRQSSPLIVAPRDHFHLERGVOFQNM NSVMGSHLMVVALSPGVDFIPQDDPAA LLVTELFANRLVSGYAPATGLQGTILQY GNTLMEVMPKICRLPRHECGSPGPV GSCAPPPSPHSTR/RRPPRSAD/CGPCKGT GTRRERAPGAG*AEAAGPEGGAGAGAGANA GAGAADAGAGGADAGAGGAGAGAGG AGAGAGGAGAGAGGAGAGAGGAGAG AGGAGAGAGGAGAGAGGAGAGAGGA GAGAGGAGAGAGGAGAGAGGAGAGA GGAGAGAGGAGAGAGGAGAGAGGAG AGAGGAGAGAGGAGAGAGGAGAGAG RAGAGAGGAGAGGACAGAGGAGAG AGGAGAGAGGPVAGAGGAVCSQTIFTR SHGGLHLWRPC
1926	9977	A	2870	1	5193	
1927	9978	A	2871	1	356	
1928	9979	A	2872	1	401	
1929	9980	A	2873	151	5459	AGARRRGRGGEAPLLPGLAAAEP PRARPDGLAEPVRRVVGSGPRGTMSAKVR LKKLEQLLDGPWRNESALS VETLLDVLVCLYTECSH SALRRDKYVAEFLEWAK PFTQLVKEMQLHREDFEI IKVIGRGAFGEVAVVKM KNTERIYAMKILNKWEM LKR AETACFREN RDVLVNGDCQWITALHY AFQDENHLYLVMDY YVGGDLLTLLSKF EDKLPEDMARFYIGEM VLAIPIHQLHYVHRDIK
1930	9981	A	2874	1	764	MEKIPILRSLRAREQQAGKDVTLQGEHQ HLPPEGCQQTVP LSVGRPPDTPGPETNS MEAAPGSPPGEGCPACSRCLRWEP PPGR PCE*PEESPAGT/PAPCPG SPGPGPAAQS LPPLPG/PLQPSR PSPAISGPAPGHRHPEG GAGQAAEQIGPRGQPRSSLQTSPP RPL AAPVPMAPRGLAWQDVSEPP PGCSGL NSSQKSPLSERPGPPV SGEAGP/DGSSHS AQRLQPPNRAG SGLESVSVSLEGQSRGARD

1931	9982	A	2875	1	1641	MKVCSSIAEVSDDTTPPSRTNSGHMTSV LKQALKDPCRTTHYRLVLTLETEVL DLFIERFCMTGGNSPICYLKAYHTNLYLS ADAQKVEAIDEGIAAATIFSPSRDVVVS QSQLRVAFDGDVLFSDSESRIVKATLD RFFEHEKAHENKPLAQEQGSTSFDPKVE AFRSPSVPLPITGHSANVYQTPTCARRRT TRPLVNWELIPRDNPPLPPRQAFRDLGQS PAFSDAVATTSAVPPFGGDCHLSEVRGAE TRQPAFAMKRPKEPSGSDGESDGPIDVG QEQQLRSSKLEKAEVLQMTVDHLKMLH ATGGTGFFDARALAVDFRSIGFRECLTE VIRTPTIWLLPGRSKAVESQSQFTGAHS TLGEPTAKK'A*SNPQVYMDIKIGNKPAG CIQTLLRSDVVPMTTENFLYMCTH/SKGL GFKGSSFHRIIPQFICQGSDFTNHGGTRG KSIYKKKFDDENFIFKHTGPGLRHGTGK CPMAHLALMEASKGQDQHPLRRKERAK QQVHDVVKLTRGRGRGISLKRIARSLCK DKETGLCLTLWH
1932	9983	A	2876	1	949	
1933	9984	A	2877	185	339	
1934	9985	A	2878	673	1085	GEPTAKK'A*SNPQVYMDIKIGNKPAGCI QTLLRSDVVPMTTENFLYMCTH/SKGLG FKGSSFHRIIPQFICQGSDFTNHGGHQS AQHGTGKCPMAQFGPHGGLKRAGPAPSS TGKERAQQKQGESAITSQPRSWKLT
1935	9986	A	2879	141	1959	PRPANLLKGGQITMSATVVDVANAAP LSGSKEMSLEPKKMTREDWRKKKELE EQQKLGNAEAEVDEEGKDINPHIPQYISS VPWYIDPSKRPTLKHQRPOPEKQKQFSS SGEWYKRGVKENSIITKYRKACENCNG AMTHKKKDCFERPRRVGAKFTGTNIAP DEHVQPQLMFDYDGRDRWNGYNPEE HMKIVEEYAKVDLAKRTLKAQKLQEEL ASGKLEQANSKPHQWGEENPSQTEK DHNSEDEDEDKYADDIDMPGQNFDSKR RITVRNLRIREDIAKYLRNLDPIAAYDP KTRAMRENPYANAGKNPDEVSYAGDNF VRYTGDITSMGQTQVFAWEAYDKGSE VHLQADPTKLELLYKSFVKKEDFKE QKESILEKYGGQEHLDAPPAELLAQT EDYVEYSRHGTVIKQGERAVACSKYEED VKIHNHTHIWGSYWKEGRRGNKCCHSF SKYSYCTGEAGKEIVNSECHINEITGEES VKKPQTLMEHLEKLEKKEKKKKKKKKK KHKSSSDSDDEEKKHEKLLKALNA*EA RLHVKETMQIDERKRPVNSMY*TSR PVEEMEAYRMKVRQRPDDPMASFLGQ
1936	9987	A	288	1	390	ITLGPDSIIGIWSGNQHKQDPYIASMEHH TDWVNDIVLCCNGKTLISASSDITVKVW NAHKGFCMST/YKDT*ASSLSGNKDSIYS LAMNQLGTIIVSGSTEKVLRVWDPRCTA KLMKLIGHTDNV KALL
1937	9988	A	2880	711	1140	GVGVCFPPVPSLRVLGRWAAFCALPGR SLRKSRLWGWGTGHTQS*EGELPWKAG/ WQRCFWRGGRQTLPLTCSPTRGCRRA AQEGAGCKARGAWWVRSPGRAGRPLR RGGSRVTLNSQMGSDATGETEWIKEMK PKKKKKMS
1938	9989	A	2881	1	649	MAGALVRKAADYVRSKDFRDYLMRVT QQPYKVFNSGPWAFSSSSYMSRPSAHISS LIVSRVSSSTSFQGGGLGAGMGVEPLDP HENLYVDFYRGFIHNCQNEANKMSFG RSQSEKAAAYLVPTTQRSGKGKIMELVE RSVVARVEHFWGPVANWGLPIAANDM KKSPEIISGRMTFVQPRNWLLFACHATN EVAQLIQGGRLIKHEMTKTASA

1939	9990	A	2882	1	389	
1940	9991	A	2883	27	554	LAVGCRGVGLGVIGSGKRQQRQGPLGV SVSAQPCAGALVRKAADYVQSKIDFRD YLMSTHFWGPVANWGLPIAINDMKI KSPGDYSVGRMTFALC/CYS/LTFMEILP YKVQI*PLNWL/LCFACHGTNEVRPSFIQ GEGRLIPNTRMDLKRASGINQWGKGKN KVFEGLSLCPGCC
1941	9992	A	2884	1	162	QCAEKIASNPKIVVAMAKESVNAAFKIT LPEGADDRKEGMPFVEKRKANFKDQ
1942	9993	A	2885	1	196	
1943	9994	A	2886	148	427	CLLGFTTHSASHDQPLPAGAGGTQRLTR AVGKSLAMEMVLTGDRISAQDAKQAGL VSMICAVETL*CLLGFTTHSASHDQPLPA GAGGTQRLTRAVGKSLAMEMVLTGDRI SAQDAKQAGLVSMICAVETLVGGAIQC AEKIASNSKIVVAMAKESVNA
1944	9995	A	2887	1	1484	EATLTRPRPAGGPAAGWYCPSAKTSGQL GAGFTFSPLERHCPLSPSHLAVHPAGAGP VQANREAPASPIFGLACCSGPVPDLNA AGTPRIFTSPTLRPLARGANFEYIIAEKR GKNNTVGLIQLNRPKALNALCDGLIDEL NQALKTFEEDPAVGAIVLTGGDKAFAAG ADIKEMQNLSFQDCYSSKFLKHWDHLT QVKKPVIAAVNGYAFGGGCELAMMCD IYYAGEKAQFAQPEILIGTIPGAGGTQRLT RAVGKSLAMEMVLTGDRISAQDAKQA GLVSKI/CPP*DTGWKEAIQFAEKIASNS KIVVAMAKESVNAGRSPNLSECIYLEGV AVPRACRWLEAGYSEESILKERLLSPE VFGKVVLPPERMLAPALEPQRLPPSAHL DLLCLASCKERA WNEQSQRSSWCRPRP ALALVLSFLVFILGYFSLFAAPLPPHSLSS RAQFAISPFQFLSLLGAVGYRSVTFGGH SRAVGSARSPLGQCL
1945	9996	A	2888	1	946	GRGVQRAMAALRVLLSCARGPLRPPVR CPAWRPFASGANFEYIIAEKRGKNNTVG LIQLNRPLPVNWLCDCL/ID*LNQGLKIF EEDPAVGAIVLTGGDKAFAAGADIQK LQNLFSRDCYSSKFFGRHWGPPSPRVK KPVIAAVNGYAFGGGCELC*CVDIIL/ YAGEKAQFAQPEILIGNLPRVRGGTQED SPVPVGSKSLAMEMVLTGDPDPQPD QASRVLSKICPVETLVEEANQCAEKIA SNSKIVVAMAKESVNAAFEMTLTEGSKL VEKKLFYFNLWPLDDRERRG*PRFVGKE KGPTFKDQ
1946	9997	A	2889	1	384	VRDYNLTEEQAIAKAKYPPVNRKYEYL DHTADV/QWIVLHRA*YFFRLHAWGDT LEEAFEQCAMAMFGYMTDTGTVEPLQT VEVETQ/GWGEFSLSKHPQGTEVKAITY SAMQVYNEENPEVFVIID
1947	9998	A	289	1	1050	FRVNMQDGGPSPAEHSAEESAGMEAR FLGLPDAAGSSGPTPARRCPAPRPAGVS YVIRDEVEKYNRNGVNALQLDPALNRLF TARRDSIIRIWRVNQHKQDPYIASMEHH TDWVNDIVLCCNGKTLISASSDTTVKVW NAHKGFCMSTLRTHKDYVKALAYAKG* VELVASAGLDRQIFLWDVNTLTALTASN NTVTTSSLGKDSIYSLAMNQLGTHIVS GSTKVLRVWDPRCTAKLMKLKGHTDN VKALLNRDGTQCLSGSSDGTIRLWSLG QQRCIATYRVHDEGVWALQVNDAFTHV YSGGRDRKIYCTDLRNPDIRVLICEEKAP VLKMELDRSADPPPAI

1948	9999	A	2890	1	332	RDYNLTTEEQAIAKAKYPPVNRKYE*DDL QSLLFHFLDEWLYKFSADFFIPREVKVL SIDQRNFKLRSIGWGEEFSLSKHPQGTEV KAITYSAMQVYNEENPEVFVIIDI
1949	10000	A	2891	3	425	SFMAQEEEDVRDYNLTTEEQAIAKAKYPP VNRKYEYLDHTADVQLHAWGDTLEEAF EQCAMAMFGYMTDTGTVEPLQTVEVET QVHADEFFIPREVKVLSDQRNFKLRSIG WGEEFSLSKHPQGTEVKAITYSAMQVY NE
1950	10001	A	2892	91	598	LKNRRRSRPSIRQSIGSTSVSRWLTSFLT LDHTADVQ*V*REFIPLKPRQ*ED*MFQS WLHAWGDTLEEAFEQCAMAMFGYMTD TGTVEPLQTVEVETQGDDLQSLLFHFLD EWLYKFSADFFIPGWGEEFSLSKHPQG TEVKAITYSAMQVYNEENPEVFVIIDI
1951	10002	A	2893	359	938	IYFFRLHAWGDTLEEAFEQCAMAMFGY MTDTGTVEPLQTVEVETQK*LVVLLF HFWDEWLYKFSADFFIPGKLCAIVF*K RL*RPGAVAYACNPSTLGSRRWIT*GQ EFETSLTNKEVKVLSIDQRNFKLRFNGW GEEFSLSKHPQGTEVKAITYSAMQVYNE ENPGSFCDHWTFTTQKIKRLPTGKK
1952	10003	A	2894	220	345	LKKEKSLMEKHFF*QTDSSVSNEKNHE PSDIVNSLQWAMVS
1953	10004	A	2895	1	281	
1954	10005	A	2896	83	425	
1955	10006	A	2897	1	3600	
1956	10007	A	2898	1	197	
1957	10008	A	2899	1	963	
1958	10009	A	29	376	610	FPAFWESQVRWIASASGVQDQPDQYGEI LFLKLQKLGGHGG/IR*EDHLSLGGQGC KEPRLYHCTPAWVTEHYLVSKK
1959	10010	A	290	1	366	FPNSSRLIWPECNRIKEESLVASPGSFC PHLDLALGLGL/GVGLMVELGLKLGLFL GLGFDLGVGLGIGL/GVKLGLSDGY/GLG FRLGLGL*AGLVGLGIRVGLKPGLEI FVGLILCICI
1960	10011	A	2900	49	247	DLTRNHSPLQTVHDVRWFMIFFQV*YRR IKFVKRNASPSGI*NII*TINTFVCYK*IFR YKNMHI
1961	10012	A	2901	1066	1768	NPQSSSSEGS*DFPRLTVTNRLLVQRSE VTQAPGQYTVDVEGHGCTFIQATLKYN VLLPKKASGFSLSLEISKELLFDCF*P/RQ VNLQYTGIRNKSSMVIDVKMLSGFTPN PCHPIELENKGQSD*SKNDPCSFY LENVFGQPDSPFFC*AEQPLCSTFQGP SHGLTDYEEKEEYALAFYQHRTVVPVSE *DKAITRRVGEAISCNKLILLYQTWKKIM NHLTS
1962	10013	A	2902	620	1124	ETPAPCLQAWVPQACREGPLAFRELLGG VLALSTPGERCSVSSEFETRARCTQ/PC WGSPKFLSPPHAKPAITLRPELKEAPWP APSLGPPGGLSTPPSGIPCPPQCCQHVA LCRGLRPSPW*TE*PVCWKMPRCPEKLP PGIFGNETYLVPIVNWPTGTSFLSTY
1963	10014	A	2903	2	399	WKESQGRCEW*VARGL*ADLT*GFHWH LPGAPPWGLLTGGGQGRGHGRGGWA LSGRPPRGFHWHLPGAPPWGLLTGGG QGRGHGRGGWALSGIPRLQSFQVWA ESPLQLPWGCVAGISVHTGVSWLP

1964	10015	A	2904	73	867	GRAEQTS DTHFFASTSACSHNLTMSCPN YCSGNSNSGSLRTSRHIPLTSDLCPTSVS CGDVL YLPTSSQDHTWVTDNCQETCGE PTSCQPVHCETGNLETS CGS/SHC/CTTCP GPCQGSSFLPASFFSSSCLPVSCRTTEVC/ RPAAVRPLRAVVQ*FTSP*GDCVAQCLR PQFCLSKSCQPQNLLTSGCQPSSCLAYRP QSLHV VSSSLRPLGPLFSGCQPLTHVFST VSSHLALEHGSPNICFLQSSILLHRSSSRA VCSSALF
1965	10016	A	2905	1	478	
1966	10017	A	2906	800	1209	LFSSGAVPQRTSPHQAPKNMQTSGRLS NVAPP/CILRKNPPSARNGGWET*CPNSL NSNQQLVDLKLTV DGLEKERDFYFSKL RDIELICQEHESSENSPVISGII GILYATEEG FAPPEDDEIEEHQQEDQDEY
1967	10018	A	2907	1	3961	MSSKHLKSEQIKDQIRVPVISLIPKIHSAQ EEQLSSTAVCSCPARVFCVTKVAVVQ MWMLHDLVQMVPRSLQWLP HIFTLFSN PLILYHSHELSPSAEQRECKLAYMPVS SASAHLLQLAFDFNLSVLSLARNML ANSASVRILKGGKVND DCTHEADVYI ENGIIQQVGRELMIWRGQGLVIPGGIDT STHFHQTFMNATCVDDFYHGTKVMLLF AKGGFLGFFILLGLLQTRLMASLAKS D
1968	10019	A	2908	48	308	NPRCGPGGRFVSSWCSVFPEAGGG*RK EPGMRGAGYKQRMGS*SKGPFAFIMPF PRPRPGFVLP PPPHLPDLNKGPHFSQKKK KK
1969	10020	A	2909	3	214	
1970	10021	A	291	49	418	FMINPPNQVGRYRNINLTNIYQKPLAP VIL/HGEIFKIFLTGIGVTQRYPLSPLPFKV FLAALDRK*REGAGEEVNGIENKRIKLSF VSDMIVYVENSKEKNGQLLELMRGICKT ATKLQKL
1971	10022	A	2910	312	387	
1972	10023	A	2911	3	216	NCLLRPKNKSVRWGP GAGAALLRPSA ALGAGSRACSVPPAAPQT PRPQVSAPA WGPGR AARGSGRMERRMKAGYLDQQV PYTFSSKSPGNRLAR\TLIGPLGKLMDP GSLPPLDSEDLFQDL SHFQETWLAEAQV PDSDEQFVPDFHSENLA FHSPTRIKKEP QSPRTDPALSCSRKPPLYHHGEQCLYSS AYDPPRQIANQVPCPWCLDSRPYSFPFG QSNGIS*DPLAPPSTLAMGTSGNIAPSSS SPWDICHSFTSQGG/APG/HPSQAPYQH LSEPCPPYPQSFKEHYHDPYGTGGAS QAVGTRGGGSMGAQ/RYPGAGVVIKQE QTDFA YSDVTGCASMYLHTEGFGSPSP GDGAMGYGYEKPLRPFDDVCVVP EKF EGDIKQEGVGAFREGPPYQRRGALQLW QFLVALLDDPTNAHFIAWTGRGMEFKLI EPEEVARLWGIQKNRPAMNYDKLSRSL RYYYEKGIMQKVAGERYVYKFVCEPEA LFLAFPDNQRPAKAEFDRPVSEEDTVP LSHL\DESPA*PPYSGLAPRPSVRAPGHA RYPRLQPRRPLRSRPLGAPAVRREG AAGWSSG
1973	10024	A	2912	119	444	GFGVGTTPALTCPVTPSYSPKARPS*T/EL EPSPRCQPQCQTLGPQAEGNQMSSAPSL ASPPSKQPPLMANRCCCVPRSRHLCGIQ NRLGFWDSREERGGDATWVSVD

1974	10025	A	2915	1	574	GADGGGAFRLSGPGP*APPGSSALMMP SSCPWRTGALGPSPAGSRALGRCTSSVG PGSRWLTRTSSPGCAYQNLENDEDGAQ ASPEPDGGVGTRLGPGIPAE/PSIRSFVV LQHHSAAAPSAPTPAAAGPNTL*SRRT AEWCWPPSCCCLGPGADPGRRGNWRR PPLPRCLORQSSSCRAFLLLVPGV
1975	10026	A	2916	355	511	LFLETESCFVAQAGARWAVITHCSLKL/L GPCNPISAL*VARTTGMSHHTPE
1976	10027	A	2917	1815	2152	INKEMSGQARWLTPVIPALWEVKVVDH LRPGVRDWHQPGQOSETPVSTTIQK*ARY GGMCL*S*LLRRLTQQNHLNQGGRCSE LRSRYCTPAWARQSKTSSQEKKEKEM PW
1977	10028	A	2918	315	480	
1978	10029	A	2919	1	1845	
1979	10030	A	292	5	377	FMINPPNQVGRYRNINLTNISQKPLAP VIL/HGEIFKIFLTGIGVTQRYPLSPFKV FLAALDRK*REGAGEEVNGIENKRIKLSF VSDMIVYVENSKEKNGPLLELMRGLSK NATKLQKLI
1980	10031	A	2920	407	802	
1981	10032	A	2921	914	1134	QESLLLQFTKSSSCPSETTSARTLLSILLS AFWAKPFNKSLGSSKLSHIFLSSDSPSK/A VPTSAYYPVPKSLPH
1982	10033	A	2922	1	447	
1983	10034	A	2923	218	544	SGFSLSLRGSSISFSL/CFKVGMCVTYPRCY C*SPVP*KPLIKPGWVSELPKPMNWASC SRTLASFLLQAARSHPWTPMKMETMEQ SKLRSQPCKPAAGAVDPRAVVHGT
1984	10035	A	2924	3	260	
1985	10036	A	2925	1	534	
1986	10037	A	2926	198	562	LKCGKQWSDPITSPQTESQLLGSSQQQL HQQRHLQGP*K*NRDSPLCFSLSSCPIPK TYTNRHILLP/SSSKSLCKFL*PA*ISPQKM GFSLSQSVCKFSKLLCSASLIKLKAFNSI QVTS
1987	10038	A	2927	72	270	
1988	10039	A	2928	325	535	
1989	10040	A	2929	492	696	
1990	10041	A	293	346	489	QLQAMAIFEYLKKTFLRPGTVPHSCNPS TLAGGRGGWIT*GQELEASP
1991	10042	A	2930	822	1759	SSAEPSPSPAPSQQTAAGAPPLCAVS PMASASGAMAKHEQILVLDPTDLKFKG DG*VFIRPEQYYTV*KWCKRSKRHGPF PVFTDVVTNLKLRNPSPDRKVCVKTT VPS/RRYCVRPWNSGNDPGSTVTVSVML QPFDYDPNERSKHKFMVQTIFAPPNTSD MEAVV/WKEAKPDELMDSKLRVVFEMP NENDKLNDMEPSKAVPLNASKQDAGPM PKPHSVSLNDTETRKLMEECKRLQGEM MKLSEENRHLRDEGLRLKVAHSDKPG STSTASFRDNVTSP/LPSLLVVI AIFIGFF LGKFI
1992	10043	A	2931	2	417	FVAQQLQGDSLHFMQALYGQHFPIEVR HYLSQWIESQA/WNTYDRCPMELVRCIR HILYNEQRLVREANNNGSSPAGSLADAMS QKHLQINQTFEELRLVTQDTENELKKLQ QTQEYFIIQYQESLRIQAQFGPLAQLSPQ
1993	10044	A	2932	1	855	
1994	10045	A	2933	1	810	



1995	10046	A	2934	224	2606	TMAVWIIQAQQLQGEALHQMQUALYGGQH FPIEVRHYLSQWIESQAWDSVDLDNPQE NIKATQLLEGLVQELQKKAHQVGEDGF LLKIKLGHYATQLQNTYDRCPMELVRCI RHILYNEQRLVREANNSSPAGSLADAM SQKHLQINQTFEELRLVTQDTENELKKL QQTQEYFIIQYQESLRIOAQFGPLAQLSP QERLSRETALQKQVSLEAWLQREAQT LQQYRVELPEKHQKTLQLLRKQQTILDL DELIQWKRRQQLAGNGGPPGSLDVLQS WCEKLAELIHWQNRQIRRAEHLCCQLPIP GPVEEMLAEVNATITDIISALVTSTFIEK QPPQVLKTQTKFAATVRLLVGGKLNH MNPPQVKATIIEQQAKSLLKNENTRND YSGEILNNCCVMEYHQATGTLSAHFRN MSLKRIKRSRRGAESVTEEKFTILFESQ FSVGGNELVFQVKTLSPVVVIVHGSQ DNNATATVLWDNAFLQEPGRVPFAVP DKVLWPQLCEALNMKFAEVQSNRGLT KENLVFLAQKLFNNSSSHLEDYSGLSVS WSQFNRENLPGRNYTFWQWFDGVMVEV LKKHLKPHWNDGPILGFVTKQQAHDLLI NKPDTGTFLLRFSDEIGGIIAWKFDSE RMFWNLMPFTTRDFSIRSLADRLGDLNY LIYVFPDRPKDVVYSKYTPVPCESATA KS/VLDGYVKPQIKQVPEFVNASADAG GGSATYMDQAPSPAVC/PPQAHYNMYP QNPD*VLDTDGDFDLEDTMDVARRVEE LALGRPMDSQWIPHAQS
1996	10047	B	2935	123	219	XPPTGMTMDKSELVQKAKLAEQAERYD DMAAA*
1997	10048	A	2936	1	1815	
1998	10049	A	2937	1	510	
1999	10050	A	2938	107	961	VVGLGRKRSSRSGASLGRVFPVPCSPPTG MTMDKSELVQKAKLAEQAERYDDMAC SSERHVTEQGHRELQPKRNLLSVAYK NVVVGARRFLPGRVISSIEHENREGMKKK QQMGKVEYP*EDRRQNLQDICK*CFWEL LDKYLIPN/AVTQPE*GVLL*KLKGGYF RYLSEVAS*DNKQTTVSNSQPGFTREHF EISKEMQPTHPIRLGLALNFSVFYIEIL NSPEKACSLAKTAFDEAIAELDTLNEESY KDSTLIMQLLRDNLTLWTSENQGDGEGD AGEGEN
2000	10051	A	2939	208	1178	EGRGHLARSFARKGLCSLQPSHGRVSRD LGRYKKCILPRLWIEKQEEHWTWSQGM TMDKSELVQKAKLAEQAERYDDMAAA MKAVTEQGHELSNEERNLLSVAYKNVV GARRSSWRVVISSEIQTNERNEKKQQMG KEYREKIEAELQDQNDVFELLEQISLFP NATQPRKVKVFLLEK*KGDFRYLF*K WQS*RQQTQPTCVETPQQLPRKQFEISK KEMQPTHPIRLGLAPKFPQSFYIEIPKL PLKKA*AWAKTALCFRHF*SNLLNL DTLEWKSLLKSTSDSWQLLRDNLTLW DIRKTRGDEGDAGEGEN
2001	10052	C	294	140	172	
2002	10053	A	2940	1	459	IEIHIKCGGIPAVLAAPAMGLEFLDLVS QPSRAVYIFAKNGIPELRTVDLVKGG HKSKEFLQINSLGKLPTLKDGDFFILTE/SA NRSVYLQGGCWHITEMRFSKCKAEGPA KRSAILIYLSCKYQTPDHWYPSDLQAR ARVHEYLGWHAD
2003	10054	A	2941	2	310	
2004	10055	A	2942	205	454	

2005	10056	A	2943	5	437	AQESRDCGDHDRATALQPGQQSEILLQ RLPPENAVD*VALEGSQPL*TLACLLSCK YQTPDHWYPSDLQARARVHEYLGWHA DCIRGTFGIPLWVQVRRANLPFLSFLAP VPSQLHVKLCTDKTLSVLGSASILRCSI HTS
2006	10057	B	2944	307	447	XSAILIYLSCKYQTPDHWYPSDLQARAR VHEYLGWHADCIRGTFGIPL*
2007	10058	A	2945	2	384	
2008	10059	A	2946	1	1278	MPGLGFREKKGGSRTVIPASRGCGLPAPI LCTKWELPLSGSSRCLAAAAALQGTVWT AESSSLTPAFQSRGWGLIPYFPARRDPAT AAAHOTALSAFTAIPAVLAAPAMGLEFLA DLVSQPSRAVYIFAKKNGIPELRTVDLV KGQHKSKFELQINSLGKLP TLKDGDFILT ESLAILIYLSCKYQTADHWYPASDLQGF GARVHEVPWAWHADLHPVGTFWYYP WGVQGVWGHSLGVQVPEEKVGTQTRT AMDQALQWLEDKFLGDRPFLAGQQVTL ADLMALEGS*CKPVALGYELFEGRPRLA AAWRRRVEAFLGAELCQEA/HTSILSIL EQAARKKTLTPSPAEYQAMLLRNRPGS PEGSGMGAKEISNKDSFCYLLAPFYLSLL PQSLLSKLQCEALHRQRHSSVLWQVLLL LRCKHT
2009	10060	A	2947	298	456	NIYQLE*K*FKNGQVWLGAVVRACNPST LGGR/WIPWGQEFGTSLANMVKPRLY
2010	10061	A	2948	59	190	ARSFHSDAPQGHLECHWC PGVLEL*GHR NPDTCPHLEQGSSK
2011	10062	A	2949	319	460	HFSYIHWFYTEKYKIKITHQDYLQKFIIY/ CTEEKHAYH*PNKILFIT
2012	10063	A	295	2008	2438	WSLHRPRGPLLWHMPRVPPPLTGL*SSP HDSVGPQWKSPPPTSFNSPDPENVQN HPGKPVAKSPFPQRNGH/PPKR/PTWGS STCWGEVIRSGSPPTKPVWPTSCEFGS VLPEDETVFPPHPVSLILFAISFALVCG D
2013	10064	A	2950	78	3703	FQELGAREPFGNMYDADEDMQYDEDD DEITPDLWQACWIVISSYFDEKGLVRQ QLDSFDEFIQMSVQRIVEDAPPIDQAEA QHASGEVEPPRYLLKFEQIYLSKPTHW ERDGA SPMMPNEARLRNLTY SAPLYV DITKTVIKEGEEQLQTQHKTFIGKIPIML RSTYCLLNGLTRDLCELNECPSDPGR YFIINGSEKVLIAQRKMATNTSFCRLQK TDSKYAYTGECRSCLNSSRPTSTI WVS
2014	10065	C	2951	162	293	MGNLLKVLCTCTDLEQGNFFLDFENAQP TESEKEIYNQVNVAL*
2015	10066	A	2952	286	1327	AGAKFFP*F*KVADAQPTSESEKEIYNQV NVVLKDAEGILEDLSYRGAGHEIREAI QHPADEKVAKKAWGAVVPLVVGKLKK FYEFQRLEAALRGLLGALTSTPYSPTQH LEREQALAKQFAELHFTLRFDELKMTN PAIQNDFSYYRRTLSRMRINNYP AEGEN EVANELANRMSLFYAEATPMLKTLSDA TTKFVSENKNLPIENTTDCLSTMASVCR VMAGNT EYRSQILQNEETVSFLSWRAM VGCS*YSYDHR TSSGEAFCLKLPKFD MK GCIKVLKDQPPNSVEGLLKSRLRYTTKH LEWMRLPPSKLKSMLPITILGIKHPAVDR ROYSAMTENAVF
2016	10067	A	2953	75	478	AVKMCDF T* DQTA*FKEAFQLFDR TGDG KILYSQCGDPKSDEMNVKVLDFEHLFP MLQTVAKNKDQGTY*DYVEGLRVFDKE NGGTVMGAEIRHVLVTLGEKMT EEEVQ MLVAGHEDSNGCINYEELVRMVLNG
2017	10068	A	2954	2	343	

2018	10069	A	2955	34	353	
2019	10070	A	2956	2	303	
2020	10071	A	2957	1	999	
2021	10072	A	2958	255	528	ARYKIHTGKGTDSGETGKVLSSHAPCGR CSRPFWARHPDRSMPHKRFIVDTNQLLS CPATSISTSSSVNVLPRCD/FPEDQTAEFK EAFQLFDRTGDGKILYSQ\CGDVMRALG QNPTHAEVLKVLGNPKSDEMNVKVL FEHFLPMLQTVAKNQDPGSPMGFMSKE LRVFKYKEGNGTVMGAEIRHVLVTPG* KLTEEEVEMLVAGHEDSN\G\CINYEAFV RHTPVGVTPGWAGASSAWC
2022	10073	A	2959	26	518	AVKMCDFTE\DQTAEFKAEFQLFD/RKPG DGKIPCTAQCGDVMRALGQNPLPNAEV LKAPGEPPRSDDMSVKEHDCHEFLHIL QTV\AQNQG\QGT\Y\EDYVEDFRVFDKEG \NGTVMGAEIRHVLVTLGEED*QRKKV EMLVAGP*RTANGLVSNYEELVRMVLN G
2023	10074	C	296	165	290	MCHRAGPASLSAGQFIHIFLVTPMAAPRI SAVCGPESRHQ*
2024	10075	A	2960	453	744	
2025	10076	A	2961	736	1062	
2026	10077	A	2962	295	782	PLLCNPDPGWYWWVKQSEISKESQEM DARPKLDLGFKEGQTIKLCIGNITNKKGG ASKPRTARGGGLSLLPPP*GKVTIPPPSS \VKLPSTNHVTPPSIPKSNHGGSDADILLA DLDSPAPVTTPTPTVSVSNDLWGDFFS TASSSVPNQAPQPSN\WVQF
2027	10078	A	2963	192	324	
2028	10079	A	2964	1	1044	
2029	10080	A	2965	1	811	
2030	10081	A	2966	1	750	
2031	10082	A	2967	493	1946	
2032	10083	A	2968	539	1215	
2033	10084	A	2969	414	1762	
2034	10085	A	297	883	1095	GS\GV*DQPG\QHGKPPSL*LQNL\AERGG GHL*SQ\LLRRLRQENHLNPGGRCC\SEL SRHCTPAWATRKL
2035	10086	A	2970	449	1305	SKSRMSAEVIHQVEEALDTDEKEMLLFL CRDVAIDVTPPNVRD\LLDNL\REGKLS VGDLAELLYRVR\RD\LLKRLKMDRKA VETHLLRNPHLVSDYRVLMAEIGEDLDK SDVSSLIFLMKDYMG\RGKISKEKSFLDL VVELEKLN\LVAPDQLDLEKCLKNHRI DLKTKIQKYKQSVQAGTSYRNV\QAAI QKSLKDPSNNFRLHNGRSKEQRLKEQLG AQQEPVKKSIQSEAF\LPQSIPEERYKMK SKPLGNLPLGLIDWHWALRTELSFEDTFTS LGY
2036	10087	A	2971	473	1164	SKSRMSAEVIHQVEEALDTDEKEMLLFL CRDVAIDV\VP\PNVRD\LLDIL\REGKLS VGDLAELLYRVR\RD\LLKRLKMDRKA VETPLFKDPPLVSDYGV\MAEIGEDLDK SDVSSLIFLMKDYMG\RGKISKEKSFLDL VVELEKLN\LVAPPDQLDLEKCLKNIP QK*P*RQSQKYKQSV\QAGTSYRNV\A QAAI\QKSLKDPSNNF\RMITPYAHCPDL KILGNCSM
2037	10088	A	2972	482	692	EKPL*SYLSSFFHFLEM\GSHSIPRLVCSGV IVAHCSLQLLGSSDVPTS/ASR*LGLTGSH TTIPSLGLFLN
2038	10089	A	2973	1	358	AQLVEFGEHSMAPPAHFRALLYHPGTAT LVPHPAISQHSPPWGNA/RG*PV*RQR HLTAPRSPPHPRFRHKPGKDPRENPSRW PEVPSLPQTHVVP\GQA\AWDTVNTTVCK NRSTKPD

2039	10090	A	2978	136	500	GTLPNSSLCESNNGHPQRGRGSCPSRY TGVPPSPRLSRIQSWIR/HLHPPSPTRPSY SSPQASASPVGLRGHPAQWTTCRSRVP SPVRFSSGSDGEKRLGQSCPHGNDPGAA CISRPPYA
2040	10091	A	2979	242	9991	FKLELHQESDMEFNNTTQEDVQERLAY AEQLVVELKDIIHQKDVQLQQKDEALQE ERKAADNKKIKLKLHAKAKLTSLNKYIE EMKAQGGTVLPTEPQSEEQLSKHDKSST EEEMEIEKIKHKLQEKEELISTLQAQLTQ AQAEQPAQSSTEMEEFVMMKQQLQEKE EFISTLQAQLSQTQAEQAAQLSSMQQVV REKDARFETQVRLHEDELLQLVTQADVE TEMQQKLRVLQRKLEEHEESLVGRAQV VDLLQ
2041	10092	B	298	191	494	MKLKRGAGSCKKPGSSGWGPAVGEFHS VQNICARREYQRQDYMADAMAEEKQLD AEFQKRLEKNKIAAEEQTAKRRKKRQKL KEKKLLAKKMKLEQKKQEGPX*
2042	10093	A	2980	3	211	
2043	10094	A	2981	1	519	
2044	10095	A	2982	291	686	GLGTAYISQDVWKSLEYVQAEVCCRGR VFLVCSCGSCWSKSSRCEPPYAVLSIQVE AAHMHEIWCRRSDRDLPWESSCSLLLE KDPP/SGPQTDQPKKHLTNFKSDKGDTF YPWTQNSGAGHGLGRQPSLGV
2045	10096	A	2983	1	639	
2046	10097	A	2984	2	423	GFLVLLTSRMKLRTLAKQRRHILSVDPK LRRRSRTGKAAPWCLIIAGTPLIIHPRFK GVRPCRDACLGPSPLAASPAFLGEGQEL ATSARNLTTRPRNACSPGFLSRVHLCG TPLEI*PPGQGMPPAAQDSS*AVSICAGPH WKSDCSTHLAGTPRAPGILAQGSL
2047	10098	C	2985	80	106	MRMKFGLD*
2048	10099	C	2986	259	531	MSPAHKNFQTPEPQRPGIPPEPPPGACY KCQKSGHQAKECLQPRIPPKRPICAGPH WKLDCTHLASTPRAPGTLAGGSLTASQ IFLA*
2049	10100	A	2987	3	505	
2050	10101	A	2988	1	1056	
2051	10102	A	2989	1	1482	
2052	10103	A	299	2	478	SGRLPWLAQPPPRCDHRGPRKSRRRSS PRMRREEQKLKLERLMKNPDKAVPIPEK MSEWAPRPPPEFVRDVMGSSAGAGSGE FHVYRHLRRREYQRQDYMADAMAEEKQK LDAEFQKRLEKNKIAAEEQTAKRRKK/R PQS**KKNLLAKKMKLEQKKQEG
2053	10104	A	2990	399	567	ACYKCWKSGRHVKECLQPRIPPKPCPIC AGPH*RSDCSTHLAATPRAPGTLAGGSL
2054	10105	A	2991	1	468	
2055	10106	A	2992	1	984	
2056	10107	A	2993	1	900	
2057	10108	A	2994	1	522	
2058	10109	A	2995	3	1150	
2059	10110	A	2996	3	500	LEGASYGETKADVAEGKSQKKATEWRS QGQRRKGEETSQLKDCRRTNQLSVKRT NQLSVIWTNQDVGSYANPLMAAEP AQ AVKLGWRPSPKPHIGDKSVSFWLLWMG SVQQGQKIGP/PSQGNACRPRNSS*SHVP CGGGPHWKLDCTHLAATPRAPGTLAG GSL

2060	10111	A	2997	3	603	GHSRPRNWSQWSPRFLWLEAHRPSPGSP DSAE LRSQVSDCLGTSRHTGALFLALG IYAASCYVARFIRVRPHRDAYS LQGRLS DHSPTFQGCQTTQGRLPWSFTLSGKSRF SGEGATTSPA HKNFQTPEPQWPGIPPEPP PTGACYTCRKSGHWAKECPQARIPPKPH PICVGP H*KSDCSTHLAATPRAPGT LAQG SL
2061	10112	A	2998	1	669	
2062	10113	A	2999	1	762	
2063	10114	A	3	32	474	LYALRNQIKPPPHVTGGQ*QKQERTKPA WRPPRP/GPPPFIALIGFCSSVPVAVVEL RVEPPGGHWPLSPLGEVRGEWRRLSGL AS/VGQWLVP RSPEGGGGGWAGSPQVS GGWPPSAHLRNPPLSLGDILPAQHPALS PGGPKLCG
2064	10115	A	30	147	766	GALHLIRKGSPLHGQA HKHVAQQGRGIL SRVHRPTHVHTQGRKATRLGLCSAHGR APHPSFLPLVPVCCS/WHHCETPRPCPLL PCPPSSGASTRTASSPVLSTLTD*PYLSE TEEQVSPGLTHKASLEPRSDSDAKTSSH PRDWPHPMVDCAAALSWTQPLWMFCG SRLAFHDAPAPAHMRAIWASRAIPAARP GPHLGLAAASC
2065	10116	A	300	72	409	VCSETGFILYCRN/DCKWDAPILETVWFF VRS*TLDMNCTPAIPFLFIYPLEMYGHA Y*MTCTRIFMAALFIATNQKSPKCSINSI HATKYI IAMKLIQLYPYVATWINKVF
2066	10117	A	3000	1	519	
2067	10118	A	3001	1202	1315	
2068	10119	A	3002	1	930	
2069	10120	A	3003	132	248	
2070	10121	A	3004	3	439	
2071	10122	A	3005	1	357	
2072	10123	A	3006	1	765	
2073	10124	A	3007	1	1434	SVAFVFACPAVDYLVKISWELQGDEEQD GLRNMWQTLQKTKDYEDVRIQNAINI AQGASEAIGQRQSSAAKPRRSGKESVRE PWARVPGALGVAARKYQKMKGIEIKRR ERLKC GAKIERRKRLKDREVGEEKKRP LTGFEIEPPKVTVM PKNQSFTGGSEVSIM CSATGYPKPKIAWTVNDMFIVGSHRYR MTSDGTLFIKNAAPKDAGIYGCLAKAPK LMVVQSELLVALGDITVMECKTSGIPPP QVKWFKGDLELRPST/CFLLSILAP/PLQS LPSLNFN SFHFLADFLAATPRAPGT LAQG SLTDSFPDLLGLAAED
2074	10125	A	3008	166	421	RPRSERLLWGTSPLS/CALTL*GDPPTTSG PQTNQLKEHLTNFKSGPHWKMDCPHP AATPRAPGT LAQGS LTDSFPDLLGSAAE D
2075	10126	A	3009	1	434	
2076	10127	A	301	92	617	DRVLSLLPRLECSG SILAHCNVCLP/GFK RFS\CLSLPSSWDYRHTPPCP/V*LVFLVE MGFRHFSQA KSRTL/TGDPPASASQKCW NYRRDNLA WLASALNKVINLLKSEIPSF FLVQLSGFSRTLLQLQGFNFNYHTLVYS NNLPIMQFTFTQDFGRISGKPFPGIMILCN REILYIM

2077	10128	A	3010	1478	2240	WQVPLSWGRGKYPSTPSPSPLAASPTFL GQQQVPLNPFSTLSGKSRFPAGASTPQ PLLLHPQRQVPLSWGRGKYPSTPSPSPA ASPAFLGQQQVPLNPFSTLSKSRFPRG QETPNRLFHPNLLSLHPNLPFPHPDLLS LCPNLPCLNPFSAFLEGKNPPPLLRVST LFSGLASFTMGACYTCQKSGHWAKECP QPGIPPKPCPISVGPH*KSDCSTHLAATPG APGTLAQ/GLTDSFPDLLGLAAED
2078	10129	A	3011	1	624	
2079	10130	A	3012	321	512	
2080	10131	A	3013	1005	1251	KGGWSQRHSQGACYTCRKSGHWAKEC PQGPICKPRPICVGPB*KSDCSTHLAANP RAPGTLAQGLTDSFPDLLGLAAED
2081	10132	C	3014	18	56	MAINSIRSLQLM*
2082	10133	A	3015	188	364	
2083	10134	A	3016	602	2459	FWGEGEKATAFLICNLAGCLRCPVDMN SVQGSDSNEEDYDPNCEEKEEEEEEDVPA GDIEDYVVGVASDVEQQGADAFDPVEE YQFTCLTYKESEGVALNEHMTSLSLSL KVSHSSWLNLYLVNFHWQVSEILDRIK SNSAQLLVEARVQPNP/SQKHVPTSHPPH HVCAGCGMQVCAKRENLL/SLWACQL*F CRSCWEQHCSVLVKDGVGVGVVSCMA\ QDCPLARNTSGTFVFPLLPNEEFEEKY RRYLFRDYVESHYQLQLCPGADCPMV IRVQEPRA/RARVQCNRCNEVFCFKCR QMYHAPTD/CATIRKWLTKLQDDSETA NYISAHTKDCPKCNICNEKGGVGNHM QCSKCKHDFCWMCLGDWKTGSEYYE CSRYKENPDIVNQSQAQA/RREALKKY LFYFERWENHNKSLQLEAQTYQRNHEKI QERVMNNLGTWIDWQYLQNAAKFFGQ GSFSSLLQCRYTLQYTYPYAYMESG PRKKLFYQQAQLEAEIENLSWKIVERA DSYDWRGDLENPDIIITEPTGGTNPCKD FHDTLSWDVDVPGVRKISLARSRAAH TACLAGSAFHDPQATAQGPTPERHWQH LLVDVFCFLFSLFVSTQGRRPC
2084	10135	A	3017	103	769	GPCCPIHQQLILFQCFKHFSGLCFQLCK LMMPSKSLVMEYLAHPSTLGLAVGVAC GMCLGWSLRVCFGMLPKSKTSKTHTD TESEASILGRQPGSPG*FLVVRN*L*RWG KGERGCPSASHAAVSSPTKQISKKSPE MAQNNGEYWWASPKVGGSKVPDEETLI ALLAHAKMLGLTVSLIQDAGRTQVAPG SQTVLGIGPGPADLIDKVTGHLKLY
2085	10136	A	3018	99	478	
2086	10137	A	3019	2	87	
2087	10138	A	302	367	619	ETRCRGHPDRDREPPPS*PGIQSSPGVP/PS RPSNKAYPRLPIRPQPPGLSFRISTPPRSP KPPCPPHIGHRVQPTKTSVVSILS
2088	10139	A	3020	1	921	

2089	10140	A	3021	1	2203	MGGASARPAAPSGRWGVPLPGRPFWEV MSPSARPPRLGGVPNSSLRTHGDDGG FVEQRRGKGDSEGQLRLKLVVVFSW QLVMAFDKAELPSSPKVLVLTTRATG GVGLQTLRRQLQERPGIGQLGALCLICTVR LCGHEEMTSTFNPRECKLSKQEQONYGF FLRIEKDTEGHLVRVVEKCSPAEKAGLQ DGDRVLRINGVFVDKEEHMQVVDLVRK SGNSVTLLVLDGDSYEKAVKTRVDLCEL GQSKEQGLSDNILSPVMNGGVQWTQ PRLCYLVKEGGSYGFSKTVQGGKGVY MTDITPQGVAMRAGVLADHLEIVNGE NVEDASHEEVVEKVREGPRRVGYGDR QQMAAALQKRGLTVKNKQTESNNINK KRPHKNPIQSAASKIEELEKNYFKIQYG SKKEPVQVKTTVSKKNKAGGITLPDFKL YYKVTVTKTACSRYPFWKMNLCVILLIL /VFPMPVFLQLAYFIVSNIRLLAHKQRLIF SCLLWLTFFMYFFWKLGDPPILSPKHGIL SIEQLISRVGVIGVTLMALLSGFGAVNCP YTYMSYFLRNVTDTDILALERRLLQTM MIISKKRLRGPGVVGFLIYSPVQIAE DLTLIQEVDALIELSRQLFLETADLYAT KERIEYSKTFKGYFNFLGYFFSIYCVW KIFMVKFWSQHISFILVGIIIVTSIRGLLITL TKFFYAISSSKSSNVIVLLLAQIMGMYFV SS
2090	10141	A	3022	2	215	
2091	10142	A	3023	50	1598	GGLWPQRAVASGSGKWRQEPSLHFAMS FLIDSSIMITSQILFFGFGWLFMRQLFKD YEIRQYVVQVIFSVTFASFCTMFELIIFEIL GVLNSSSRYPFWKMNLCVILLIVFMV PFYIGYFIVSNIRLLLSPLSQVA*TTDWL FSCLLGLTFMYFFGKLGDPFPLSPKHGI LSIEQLISRVGVIGVTLMALLSGFGAVNC PYTYMSYFLRNVTDTDILALERRLLQTM DMIISKKRMAMARRTMFQKGEVHNKP SGFWGMIKSVTTSASGSENLTLIQEVD ALEELSRQLFLETADLYATKERIEYSKTF KGYFNFLGYFFSIYCVWKIFMATINIVF DRVGKTDVTRGIEITVNYLGIQFDVKF WSQHISFILVGIIIVTSIRGLLITLTKFFYAI SSSKSSNVIVLLLAQIMGMYFVSSVLLIR MSMPLEYRTIITEVL/GEELQFNF/YIHRW FDVIFLVRRLGILFPLFGLHKQAPEKQ MAPLNLKPYLQTDKRPSGFQKFRI
2092	10143	A	3024	1	158	
2093	10144	A	3025	2	1067	AAELGTFAQTQSGAWRAERSWHNRGP MMWRPSVLLLLLLLRHGAQKQKPSDAG PHGTGRVHQAPLSDAPHDDAHGNFQY DHEAFL*REVAKEFDQLTPQESQARLGRI VDRMDRAGDGDGWVSLAELRAWIAHT HQRHILDSVSAAWDTYDTRDGRVWE ELRNATYGHYAPGEEFHDVEDAETYKK MLARDERRFRVADQGDSDMATREELTA FLHPEEFPHMRDIVIAETLEDLDRNKDGY VQVEEYIADLYSAEPGEEPAWVQTERQ QFRDFRDLNKDGHLDGSEVGHVWLPPA QDQPLVEANHLLHESDTDKDGRUTKAE ILGNWNMFVGSQATNYGEDLTRHHDEL
2094	10145	A	3026	2	860	

2095	10146	A	3027	2	1681	FGTLGSAPFESCPFQKEDGMIKFQIQGIH VQERVTFKDVAVVFTKV*LALLDKAQI NLYQDVMLENFMNLMMLWIPLPVSFQLG SANGESQQEIQGRDKSEVRIFIPPFGFSLEV AVEWLYSISIDORDAHPKTDPKLRPEEA QRKSLSRNVKMHC FVKPRAAPQTEPTLE PTLFPSYPGVRPVPWRMRKEAYGLQSPE SPARSSGHSQGYPGEDLHRAEQRPERFA GSAWTWSLQRLATWKRIQRTGQNTWLE ALANLLANMTQLPGHFSTFLVSAPHPAA EKPLLHSILTHRPVHLLATVTLPAEEAP LMADITAQAILTPQLCSGTLALLAHVAAR AHADTNLQHVGPAGDTTGDMASMTLL PGSDTVDLKDTAPCIVAAPVPAMAKKG QGIAQAIASEGANPRPWQLPRTVGPVVN GEGKCGVGAPRVPTALPSGAVRRGPPS SRPQTHQQLPPCAWKRCRHSTPAHENSQ VGYTLQSHRGRDAQGLGSSSLASACLD VRHGVKGDYFRTLRFNDPCAGFQTGMG PAAPLFCCLISPFQNGGIYPKAVAPLYLGS N
2096	10147	A	3028	51	569	SLRTVPPHYLQSGPGTPIPPSSLGPASGTR RVES/CVAAPNEQEGSSKGGARPVTICDS QNRPCPPPPSPALPQADPSLKTWLLLN HIRWDTDSMICMEDSS**GFK/PNKDSIK VQVRLRGVQGVGHCMGGAALPSTSLSS CLTPFPAPLNSRHTTLAPPLQPENPAQR TTP
2097	10148	A	3029	2	395	
2098	10149	A	303	2	519	FPLFLFLLLLLAFVVALTTTRIQGVPTL VLQAKRVNTSRPHPD/GS/QPPTSASFNQ LNPTTNTSTPQLRSHVASGYVG*KQMOPY H/PPQHAPAPPQPCPWQVDTFLPAPTRPL LGSGPGSPRRSPGGVPPAGKGPAPGPE CPPTAQRPTT/RQYLGPLFKGDPRNSPRE KPRS
2099	10150	A	3030	2	1038	GLLEPFSKLLSFVIQNAVFTLAYLVELCG LCYRAFTKERDKFYLSRSGCSKSFRRRL KLKSPLPDTNLLLLVQFALPDAGTKLD*V NNPEQADDSLCTWDVGTAVAMECVRQY INEVLDFMADMHTLTKLKSMMKTCQA SDEDTFGGHLKVGLAQIAAMDISRGNH RDNKAVIRYLPWLYHPPSAMQQGPKFI ECVSHIRLLSWLLGSLTHNAVCPNASSP CLPIPLDAGSHVADHLVILIGFPEQSKTS VLHMCSLFHAFIFAQLWTVYCEQSAVAT NLQNQNEFSFTAILTALEFWRSRVTMAIL QLMG/HINKVMGRKWVLLSMWISLMGG NLPGNAIWT
2100	10151	A	3031	3615	5322	EVPPNPACYQHQA*SVCLCLHLKSSLTSS RR*/CTDKCHDCGAILEEYDEETLGLAIV VLSTFIHLSPDLAAPLLLDIMQSVGRLAS STTFNSQAESWPPTASSRSCSKARSKVIH PLRIQAPQICLIPDTQTLNPIVDFPDGTF RTLASSLMDFNELSSIAALSQLEGLNNK KNLPAGGAMIRCLENIATFMEALPMDSP SSLWTTISNQFQTFFAKLPCVLPLKSLE PFSKLLSFVIQNAVFTLAYLVELCGLCYR AFTKERDKFYLSRSVVLELLQALKLKS LPDTNLLLLVQYENKMNEKAERLVKL LNSAQQQFQFICADAGTKLAESTILSKQ MIASVPGCGTAAMECVRQYINEVLDFM ADMHTLTKLKTSLHMC SLFHAFIFAQL WTVYCEQSAVATNLQNQNEFSFTAILTA LEFWRSRVTPSILQMAHNKVLPIMWLPM IQSNIKHLASAGLQRLQAIQNHVNHSLR TLPQSGQSSAGLAALRWLQCTQFKMA QVENPVLGKQPLNFILYEWTPSAPQCQH SGLAIMGLKTNNDLPQAGWGNHIGLY



						NPLS
2101	10152	A	3032	3	1078	FFSSVFPAAIEPGERASARRRVSRAGCLA LTLPALLLVTHQVPAEAAVSRAMAELET ALESLEMGFPRGRAEKALALTGNQGIE AAMDWLMEHEDDPDVDEPLETPLGHILA GREPTFSEQGGLKDLVLAAGEGKPALS */EEERQEQTARMFGAWLAQKGSREIRE EREGREVALERERQRRVRQGEQLSAARQ RLQED\KMRR\AAAEEERRREKAEELAAR QRVREKIERDKAERAKKYGGSVGSQPPQ VVAPEPGVPSPSPSQEPPATKGEDDKCRI QVRLPRWDPH*PQTFRAREQLAAVRLAY VELHRGEELAGGGARDPVQIASVAFPRR AFLRSLTMERPLQELGMAAKTRNQD
2102	10153	A	3033	2	565	IHFQQEHWPSQLLLRESLEDMMHLHSA LG LCLLLVTVSSNLAIAIKKEKRPPQLSRGV WGDDITGVQTYEEGSLCSKK*GSH*WV IHHLGDCQYSQALKKVFAQNEEQEMA QNKFIMLNLMHETTDKNLSPDGQYVPRI MFVDPSLTVRADIAGRYSNRLTYEPRD LPLLIENMKKALRLIQSEL
2103	10154	A	3034	73	262	
2104	10155	A	3035	29	867	PLEGIADNRPHGETSTLPATFCSPSAPEL ASMSVVPNRSQTGWPRGVTFQGNKYI QQTKPLATLAERTINLYPLTNYTFGTRAP LTRRTSSVAARFQRIEGKNFDKIGMRRT VEGVLIIVHEHRLTPWCYLLQLGTNFLP NYLGWLNLTGGEDEVIEGLKTA**PEIPG SVQDGV\QD\WGPLTDCHWVTWWRP KFLNPPSVSHIFPAHITKPKH/IRKLFP SSLQEKALVLQFPKKFTSW*PATPLFELY DNAIPGYGPISSLPQLLSRFNFYIN
2105	10156	A	3036	2	817	RARIPKMAAVKDSCG*GEMATGNRRRL HLGIPEAVFVYYSY*RKMYHYFMKQP GNETADTVLKKLDEQYQKYKFMELNL AQKKRRLKGQIP/IKQTLKILKYMQKKK EISTNFNGRPRFFAGRLTLYLQKLSVPPT R*RG/CLGLGANVMLEYDIDEAQVALLGK DLASTATKILDSRGGRTLFLARDQFTTTE VNMARGLLIGDVKKEGNKD\STKNKA LMLGQFKNVGLVFPNMFIFYPIFYPRD INFGMFNQPRNFKEKINTILFIY
2106	10157	A	3037	3	468	ERJMEWHRHTMTECSAQEPKSHDIYRL LVKLYRFLARRTNSTFNQVVLKRLFMSR TNRPLSLSRMIRKMKLPGRENKTAVVV GTITDDVRVQEVPKLVKALRVTSRARS RILRAGGKILTFDQLALD/SPYVRSKGRK FERARCRRARRGYKN
2107	10158	A	3038	1	693	

2108	10159	A	3039	105	756	VDHPPYKRTEKVRAQRSPKSQYIYLSLL LKLYRFSGPPEEPNSNIQTRVVLKRLFMSP HQTGPPLSLSRMIRKMKLSWPGKQRRRA VVC/VGPITD/DVRGSRYPKLKVCCTAP *PSRAPQAAILKAGGKULTFDQLALGLP LKG/CGTVLLSGPVGKGRKVVYRHRQRP QEPHKKPHQNPTRSKGRKFERARGRR ASRGYKKLTLDPTLLYKKIFA
2109	10160	A	304	444	920	NPSLRCWLGLSPGKLAGARGRGTVHVHVG GPEGPCTHSTSTKRMARHPREVSTGGGG KAP*/SQGIRGQAGQG/GARSGVAGNG GGGARSRLRLSPAAASATA/SGPEGS/GP GSGGRSRVPVEAAPP CPRSDVVP AARGA AAAGPGGTWLPASQVGPSPGWG
2110	10161	A	3040	301	390	
2111	10162	A	3041	1	737	MWFAYSPTTFCHDWKLPEASAEAKRMP ALCFLYSLQHPLCEDGVCAHEAGVWGI GGLIAYVKGYEEVSQKFTSIRRVRGDNY CALRATLFQAMSQAVGLPPWLQDPELM LVVFAILLHSHLECREPLLPILSLYMGA LVRCTTLCGLYYKNIHDIIPDRSGPELGG DATIRKMLSFWWPLALILATQIRSRPIVN LFVSRDLGGSSAATEAVAILTATYPVGH MPYGWLTEIRAVYPAFDKNPNPNKLVST SNTVTAHIKKFTFVCMALSLTLKDSVQ KPDISLTGRLVQTLPTMRHQGESKDV APLASWLSEPTSSSEASQTSSKLTINSQG EGKAKQKLECGTSLIVLRSCEKNQERIK AAEKRNRSWTLTCLGAWRPLLFELPVI VQTPDQTNRFQFRYPAKTQSGLCSEFFHS FDLLTLEAFVKVWFPGLLILLCFVMFW TPNVSEKILIDIIGVDFAFELCVVPLRIFS FFPVPTVTRAHLTGWL/QGPGAHAGCFC SHFASQSPGMPGAPAHDPDLLVHGRTCA LHHPVPGLLQEHSRHP*QKWPGAGGR CNNKKDAELLVAFGSNSGHTENQSAYC QPLCFPGPWQFCSHRSGGDFDSHIPCG SHAIRLVDGNPCCVSCFRQE
2112	10163	A	3042	889	1577	RGKKNTVLKKIRSQFTIRESFDLRYKEHI PLPKLEFPLDTKVFGLLGEDMVCCTGPTG VALKGPWHWKYIGIIDEKGDLVNFSYQKL VFRTSWSTWLPGRPVLLRDCSLKTPKP AAQAQEP TVHLRPRRQGFSGSMRSLID WVSLTHSDGDVIVPIVLSNERYHWPVL GWVGGVDCDEFFRVVLGEARLHLDGV AHQH*GKKEPFTCSKTTSVSHLVEVVP QKLSWVI
2113	10164	A	3044	2188	2706	RESIDQGFSNFFFLRRSLDSVTQAGVQ WHDLSSLQPPPPGFK*K*FSCLSLSS*DY RSPATMPGLIFLYFFFLVETGGFTVLAR MVSIS*PQ/CDPPASASQISAGIQKNSFFFL ETRVSAFVAQAGVQWCDLGSPPPPPG VQPFSCSLSPSSWDYRRTPPGPANFAVC N
2114	10165	A	3045	33	198	
2115	10166	B	3046	6	125	MAGQFRIYLWDPLLILSQIVLMQTVYYG SLGLWLALVDGL*
2116	10167	A	3047	1	110	
2117	10168	A	3048	260	798	RPGHAQTLGSPSLALGMAGQFRSYVWD PLLILSQIVLMQTVYYGSLGLWLAIVVD GLLRISPSLDQMFDAEILGFS/TPFQGRSL MMSFILNTLNSA/LGLLYFIRRGKIQCLDF TVTVHFFHLLGLLGSNSPPSPSGG*TLV GLGPKPVVALHSLAVIGEYLCMRTELKE IPLNSAPKSNV

2118	10169	B	3049	1	528	MRRQDCPNPMKKIRSSSPVQQERVSSLY FQSARGGLGVDVSALGTVTHVSPSSSAR VAMAMSAERGCSMGHIMGYRGVGRFT RGNGDHARVGKGNPPEVSISGYDDNW YLGRDATLSCDVRNPEPTGYDWSTTS GTFPTSAPVPRAPSWSTQWTVCSHLRL HITNAVDGPR*
2119	10170	A	305	504	935	AYLQSSMIAQSRATRTGLATWHQHKL DRHFPRLSSRHPLFETCSSPPCKRWGEKS HFRACKEGRESAPCGIPRPRFKVHTPRG KLRMARPVPRRFGGSRLGPRSRKRRTK QPR*PAAPRDSFGAPAAPPTPRPSAARNG GG
2120	10171	A	3050	31	206	GSSCRSRSLVVLSIVLEGPAPAPGDPQT SPSALDKLKEFGNTLEDKARELISRIKQS ELSAKMRVPLRPRHEALPVAPGPGGGSV DRLGRPSPSRPGPPDVSQLG*AEGVWK HTGGQGSQTHQPHQTE
2121	10172	A	3051	21	353	SAAGTGPEPEPEPHRHLLNRPADRPQSG PRASGRAQSPGPSMARAAALLPSRSPPT PLLWPLLLLLLLETGAQDVRVQVLEVR GQLGGTVELPCHLLPPVPGLYISLVTWQ RPDAPANHQNVAAFHPKMGPSFSPKPG SERLSFVSAKQSTGQDTEAELQDATAL HGLTVEDEGNYTCEFATFPKGSVRGMT WLRVIAKPKNQAEAQKVTFSDPTTVAL CISKEGRPPARISWLSSLDWEAKETQVSG TLAGTVTVTSRFTLVPSGRADGVTVTCK VEHESFEAPALIPVTLVRYPPPEVSISGYD DNWYLGRTDATLSCDVRNPEPTGYDW STTSGTFPTSAVAQGSQLVHIAVDLSLAFN TTFVCTSQPNPWALARAQVIFVRETPQ ALAPRCGPAGVGGRGGDTAGAAASGW GVLGLHPCMRVRRRRKSPGGAGGGASG DGGFYDPKASGVGKWGPRLLDTSSPWS HGTRWQG*GGGGGGREGRRERPHVASTP STSRMTWSPSWTAPSSHGG/PVYV*PGPP WPGPLPSCRRDRRRRRCCGRCCCCSW KPEPRMCEFKCYPRCEASSGAPWSCRAT CCHLFLDCTSPW
2122	10173	A	3052	1	1620	MARAAALLPSRSPPTPLLWPLLLLLLLET GAQDVRVQVLEVRGQLGGTVELPCHL LPPVPGLYISLVTWQRPDAPANHQNVAA FHPKMGPSFSPKPGSERLSFVSAKQSTG QDTEAELQDATALHGLTVEDEGNYTC EFATFPKGSVRGMTWLRVIAKPKNQAE AQKVTFSDPTTVALCISKEGRPPARISW LSSLDWEAKETQVSGTLAGTVTVTSRFT LVPSGRADGVTVTCKVEHESFKEPALIP VTLVRYPPPEVAISGYDDNWDLGRDAT LSCDVRNPEPTGYDWSTTSGTFPTSAPV AQGSQLVHIAVDLSLNTTFVCTVTVNAV MGRAEQVICVRETPNTAGAGPTGGIIGGI IAAIIATAVAATGILICRQQRKEQTLQGA EEDEDLEGPPSYKPPTPKAKLEAQEMPS HLFTLGA*EHSPLKTPYFDAGASCTEQE MPRYHELPTLEERSGPLHPGATSLGSPIP VPPGPPAVEDVSLDLEDEEGEEEEYLDT UNPIYDALSYSSPSDSYQKGKGFVMSRAM YV

2123	10174	A	3053	408	2708	DPSSGHWLHWSIRPPAAGWSPRSGRAA ARAQSPRRREHGAPGRTGPGGGPRLLLL AVLLAAHPGAQDVRVQVLPEVRGQLGG TVELPCHLLPPVPGLYISLVTWQRPDAPA NHQNVAAAFHPKMGSPFSPKPGSERLSF VSAKQSTGQDTEAELQDATLALHGLTVE DEGNYTCEFATFPKGSVRGMTWLRVIA KPKNQAEAQKVTFSQDPTTVALCISKEG RPPARISWLSSLDWEAKETQVSGTLAGT VTVTSRFTLVPSGRADGVTVTCKVEHES FEEPALIPVTLVRYPPPEVVISGYDDNW YLGRTDAT/L*ACDVRSNPEPTGYDWS TTSGTFTSAVAQGSQVLVIHAVN/SVLFN TTFVCTVTNA/VGIGAGAE/QVIFVRETP RASPRDVGPLVWGAVGGTLLVLLLAG GSLAFILLRVRRRRKSPGGAGGGASGDG GFYDPAQVVLGNGDPVFWTPVVPGPME PDGKDEEEEEEEKAEGKGLMLPPPALE DDMESQLDGLISRRAYTPPSVPVPSA GAAAVACTDPVPSSGVHGHNDHKNSSS MFRMKALAQSPYKTPNTAGAGATGGII GGHAAIIATAVAATGILICRQQRKEQTLQ GAEEDEDELEGPSPYKPTPKAKLEAQEM PSQLFTLGASEHSPLKTPYFDAGASCTEQ VGAHGKTKEMPRYHELPTLEERSGPLHP GATSLGSPVPPGPPAVEDVSLDLEDEE GEEEEYLDKINPIYDALSYSSPSDSYQG KGFVMSRAMYV
2124	10175	A	3054	115	467	
2125	10176	A	3055	315	431	
2126	10177	A	3056	53	442	PRVMAM/ATKGGTVKAASGFNAME DA QTLRKAMKGLGTDEDAIISVLA YRNTAQ RQEIRTAYKSTIGRDLIDDLKSEL SGNFE QGAGTDEGCLIEILASRTPEEIRISQTYQ QQYGRSLVEDDIRSDTSF
2127	10178	A	3057	186	1268	PRDMAMATIGGTVKAASGFNAME DAHT LRKAMKGLGTDENAIISVLA YRNTAQR L EIRTAYKSTIGRDLIDDLKSEL SGNFEQ VIVGMKMPT*RDDVQELRRAMKGAGT DEGCLIEILASRTPEEIRISQTYQQY G RSLEDDIRS DTSFMFKRVLVSL SAGGR DEGNYLDDALVRQDAQDLYEAGEKKW GTDEVKFLATVLCSPKITLLHVFDEYQ KDIHRRHIEPEVLNSETSGIFWKIALLGLA VKCMRNKSAYFAEKLAYKSMKGLGTD DNTALIRVMVSSSQKMDMLDIPAHTSKR LLWKSPLYSEFIKNRVATSGDYRKIVLLV LCGREMIKIPGRDREGSSTLLNFF
2128	10179	A	3058	1	4608	
2129	10180	A	3059	1	465	
2130	10181	A	306	163	387	IRQKKAIFVIVAFKRRGLRKT D/YYYAR GG*FVKNKYRGFIHEL GTTCGKYFLCTL AIDPSDSNIIISMPEQT
2131	10182	B	3060	109	192	GSSSNEYLYERFGLLA VPSIRSLVQSK*
2132	10183	A	3061	1	1542	
2133	10184	A	3062	1	4226	EAVLCSSRGRPDSSMPDCCRNAALEARS CQSM TSLFSNTVSP TQDGTSSLPRRQSSF AKPPLRALYD LLIAPMEGGVVESTEPLG TSRSGFASGTALFWLGDNGKAASPPGV S VSSLENNEDNTQCNRL EQGYREAAVPD WTQDLALCLLPTLQSLKARTAPHL CVPS SCYKAWYTLAVSKVSGMVEGKA WII LL LLAASTHALLQRPQEGDITPLAGSRAAA VSCQARPFSTFGLMHSSGPVGRHRQLIL VLE

2134	10185	A	3063	2	4195	ALDFPGRFRPTASFIWASVLFETIRHEA EVSTDYKLSLFDLQTSSYQALQRLVLSL GHHDEALAVAERGRTRAFADLLVERQT GQQSDPYSPVTIDQILEMVNGQRLVL YYSLAAGYLYSWLLAPGAGIVKFHEHY LGENTVENSSDFQASSSVTLPTATGSALE QHIASVREALGVESHYSRACASSETESEA GDIMDQQFEEMNNKLSVTDPTGFLRM VRRNNLFNRSCQSMSTLSFNTVSPTQDG TSS
2135	10186	A	3064	8	665	SAQMAVTTADPRVRPRVRTQLCSLATSN RHAWCILSPEEKSAVTALWGKVNVDEN VGGKALGRLLVVLPLVPDRFFESFGDL STPADAVNGQIPKVKVWSRKCLGAIFS DGPGETWDNLQGSPLTLK*ACTC*QAC TWDPT*RTFRLPGGNVAGFVVAWAHSL GKEFQPHQCKLA*SRKLVGLVLAKCPW PHKYHLKLAFLAVQFLFKGLWSLKTN Y
2136	10187	A	3065	8	531	SAQMAVTTADPRVRPRVRTQLCSLASLI QTRMVHLTPVEKSAVTALWGKVNVDEN VGGKALGRLLVVPWTPQRFESFGDL SVP*SLLRANP*GERLHGKKSASVPFSDG LAHLADNMLKGTFAHTEVSLHCDKHLRG SLKNFRLGQRAWSVAGPIHFWEKNF NPTSCRLA
2137	10188	A	3066	91	951	TPHFHQGTGKRAAWPTWFNPAGPGIFLR R*GPGKAQRRRSIAPRPVAVGFPSPGIVRC PHGFGYPHERLRAGPRLPALRKLVRAGI HKEGWPGPIGNSVDPRKPDQVPRSPLOA NVQRLKKYASNFILFPQSRAPKKGDR SVAELKLGHPSTGPMVMPVRNVYKKAE KARVITEEEKNFKAFAFLRMARANAPAL RHTGQKEPREAAEQGC*KAHNKALPGD LESVGGQSCWVSTWCVSWEQLGLGWGFT AVTSSCQGIWGLERQSKPWIMLNLVL KPCWLF
2138	10189	A	3067	1	1603	MKLLKSILLTILLDFSLHTCASLVPALQW ILLLLITVLVVEGIAVAQKTQDQGNIGIK HIPATQCGIWWRTSNGGHFASPNYPDSY PPNKECIYILEAAPRQRIELTFDEHYIIEP SFECRFDHLEVRDGPFGFSPLIDRYCGVK SPPLIRSTGRFMWIKFSSDEELEGLGISEQ IIPFIPDPDFTYLGRYFKFPS/HDCQFE/HL RELDGDSAAALVR*NKRRKQNGQAFD/C IWDL*/MPFQKLIYLRFLDYQMEHSNEC KRNFVAVYDGSSSIENLKAFCSTVAND VMLKTGIGVIRMWADEGSRLSRFRMLFT SFGGASPAQAALSFCHSNMCMNSLVCN GVQNCAYPWDEHNCKEKKKAGVFEQIT KTHGTIIGITSGIVLVLLIISILVQVKQPRK KVMACKTAFNKTGFQEVFDPPHYELFSL RDKEISADLADLSELDNYQKMRRSSTA SRCIHDHHCQSQAASSVKQSRNLSSMEL PFRNDAQPMKTFNSTFKKSSYTFKQ GHECPEQGPCKDRVMGGRFPC
2139	10190	A	3068	163	392	HQELLFLLSSRRLSRSPSEGRPTM/AL GEKKIGFPSLLWCFPPSAAGASSQIKWIQ PCGSGAPPLPGCSGKRRA
2140	10191	A	3069	190	352	HQELLFLLSSRRLSRSPSEGRPTMVL EKRK*GFHPHSLCRAWRLKVCEGKS
2141	10192	A	307	131	395	LWAARAAVLTSLPTGSPSAALSGCCRP GGQGRYSVAACRGRAAGGVAPVPAHT* AAAPLGHFSFLLGIVSPAPEPHFELGHYY SGLS

2142	10193	A	3070	1	794	MSRERPPGTDIPRNLFSIAAL/DGARLLP* PAAQPRGGAGGGARRGRDAVRGPPIRSR TESGP/SGPDLHQPEAAGGRP/CSRSPDT RKRVRFADALGLELAVVRRFRPGELPRV PRHVQIQLRDALRHFAPCQPRARGLQE ARAALPASEPGFAARLLTQRICLERAEA GPLGVAGSARVVDLAYEKRAPAAYAGP APPPPRADRFAFRLPAPPIGGALLFALRY RVTGHEFWDNNGGRDYALRGPEHPGSG GAPEPQGWIFI
2143	10194	A	3071	133	1079	ARRILQNFSLYPSGEDLKGYKVIQAQTA FSANPANPAILTEA/SAPIHDGNLYPRLY PELSQYMGSLNNEETRANVAVVSGAP LQQQLVAPRSSINYMGGLLLTG*LMLGI RRSR/II*GKGFREVILCKDQDGKVLGLRL KSIDNGVIFVQLVQANSSSLGLV*EFGDQ VLQINGENCAGWSSDKAPRWSNRPF*E KITMTIRDRPFERTITMHKDSTGHVGFIF KNGKITSIVKDSAAARNGLLATGPNLCGN SMGQNVIGLKDSQIADILSTSGTVGTITI MPAFIFEHIKRMAPSIMKSLMDHTIPEV
2144	10195	A	3072	242	512	AWVPCLLRHCDREPAPRGRTSPSLWPQE GT/P/GQDRGGGPWLGQPSLQ*QRSHGG HLPAPQGPLGGPHDNSSFRPGRGGAGRG QGIEQGSK
2145	10196	A	3079	184	561	QQRGRGLRKGSGASGAGMMEHTHTEA HPHTWVCTSTHTCTHTLGDYDYMHLHV CVSIHMYV/CPHT/MSLALGMSAHTLHM FSHTKLLSR*HAGRHVMPKQVTCTYVP TPSPTHVLGHACGCRPHAS
2146	10197	A	308	327	598	GPARNPAQCRWAGTAGGPSTLSAAAGP GAKPLMPGAA/GAGQAGWLL*VQGPSP RPPGTLAGPQARHTALVPARASPTPPC KLRGGLRP
2147	10198	A	3080	63	426	GLLFPQHCPAHRPRCLRPSSAGRGS PALSRPSALCHLCLPRSSLAPRSVSPAA TPHH*ALQGLVEPWGPLHSAPLHR*APA SGPAGNVRAWPACRGWCLSRPLPGTV GEGAASRAF
2148	10199	A	3081	1	588	
2149	10200	A	3082	81	289	
2150	10201	A	3083	3	387	
2151	10202	A	3084	2	290	RPPGPSRSPAPPSSRRPLPKMACCACC ARVTAGPVPGLGWGVGGPGQSPVTRR ARPPSGLLGFEARPLVPWTSRSPRCQCT ACGHLVEFVL
2152	10203	A	3085	2099	5383	VIQTSLSPPATNDRGHFSLDNWTGKP VHSMVAHLDAVTCLAVDPNGAFLMSG HDCSLRLWSLDNKTVCQEITAHKKHEE AIHAVACHPSKALIASAGADALAKAHKE QGGKRLHLPVEDDGFGAQAAPCWEEVP QGTNAQFLGCKGLCPSPAGPSEHTRKD GGRCLDTQDMAAFCWDSHLPFRKKGAE LQSPPLLQIPAPGSGVSFHIQIGLTREF VLLPAASELAHVKQLACSIQDQKRPRVQ VPRP
2153	10204	A	3086	2	426	EDGSLATFLGRRQFAFAEMRHSKRTHCP DWDSRESWGHEYSRGSHKRKRSHSST QENRHCRPHHQFKESD/CCSMCIPLEASH SVEEDTHPSHYLEARSLNERDYDRDRYV DEYRNDYCEGYVPRHYHRDIESGYRIHC SRS

2154	10205	A	3087	39	1514	GDGAAAILWGVCRSGRGGKTAVWRHFS AEGPFAFAEMRHSKRTHCPDWGSIESW GHESYRGSHKRTRISHSRSENHRCKPH HQFKESDCHYLEARSLNERDYDRRYV DEYRNDYCEGYVPRHYHRDIESGYRIHC SKSSVRSRRSSPKRKRNRHCSSHQSRSM KSVDTLGEGAFGKVVECIDHGMGMHV AVKIVKNVGRYREARSEIQVLEHLNST DPNSVFRVCVQMLEWFDHGHVCIVFEL LGLITYDFIKENSFLPFQIDHIRQMAYQIC QSINFLHHNKLTHDLKPENILFVKSDYV VKYNSKMKRDERTLKNTDIKVVDFGSA TYDDEHSTLVSTRHYRAPEVILALGWS QPCDVWSIGCILIELYPWGSQFFRLQ**K EHLAMMERNIRTPYPQHMQKTRKRY FHP*PSLDWDEHSSC/AGRYVRRRCKPL KEFMLCHDEEHEKLFDLVRRMLEYDPT QRITLDEALQHPFFDLLKKK
2155	10206	A	3088	2	175	
2156	10207	A	3089	1	534	
2157	10208	A	309	1	630	
2158	10209	A	3090	1	325	LEKERDFY/FGKLR/NIELICQENEGENAP VLQRIVDILYATDEGFVIPDEGGPQEEQE EYYSLGPAEQHGYSSLQIMCLTVKYSL LSLEDSLVSFHKQKVPLLVKVPVF
2159	10210	A	3091	3	930	SSRGRAGGVWRFERDEDTGAGCGQW TRFCREPKMAVNVYSTSVTSDNLSRHD MLAWINESLQNLTKIEQLCSGAAYCQ FMDMLFPGSIALKKVKFQAKLEHEYIQ NFKILQAGFKRMGVDKIISVDKLLKGK FQDNFEFVQWFKKFFDANYDGKDYDPV AVARIQGQETAVAPSLVAPALNPKVKPL TSSSAAPQRPVISTORTAAAPKGWALGV VRKNPGVGWNGDDEAAELMQQGQRI*NL LFEDLGGERDFYFGKLRNIELICQENEG ENDPVLQRIVDILYATDEGFVILDEGGPQ EEQEEY
2160	10211	A	3093	337	903	CNRNTSTLTRCTNVCINTPRPAPLLA/P QATLHFQFP*/PPLPL**QPQALSATRLSL/ VCHGSGRLRLPLQAAPGWLPGLPLSL FSCRGRVLLC*PGWSCYLGLKLSSHGL PKCWDDRPKPPSPASFEWAPTRPNLPQ HGTQSQCFLSVGEAPRPHSGSAYYTNQC LQCSRPCSERTRRLGVLLPK
2161	10212	C	3094	821	1051	MAMELINNKHWPSVRALCWNTVLAYVI GEGVNSGRSCLAQTLVTFPRKGSFRD WVLGPAPGGNGALRLFRKILFC*
2162	10213	A	3095	1	594	
2163	10214	A	3096	3	761	TSRGRVGTQAGEPRDLRPPPCSSPLRV/ AVVACLEQPERGAWEAHNIPQNGDSAV RSFGITGTHVKLPGPAPDINPNVYDFKTT YDQMYNDLLRKDK\ELFTQNGILHIAGR NKRIKPGPERFQCKDLFDLILTCEERV YDRVGWKI*ISREQGDLPSPVHVVNLDI QDNHEEATLG/ARFLICEVCQCIQHTED MENEIDELLQEFEEKSGRTFLHTVCFIL FSFLDICF
2164	10215	C	3097	129	314	
2165	10216	A	3098	1	1434	
2166	10217	A	3099	1	831	
2167	10218	A	31	1	365	FFFLLLILFLLLIQYHYIFYTFLWLRLLV LTGSI*C*KCKITMNST*IE/TVFKDYEH LYVCKLKNLEKTDKVLTIHNFRLNQ*E PEVLTRAKMYKIYNDIE

2168	10219	A	310	101	520	RRLQKPGCLIWTRGST*CPLTLLPSRGA GLGTC/KPAMPEPPTHSMGTCAARASPT STTPCST/CAQSHRPGRNKQPKG*GMRA HGAGLAGSSTCSPGVGSTG*SQGL
2169	10220	A	3100	1	1251	
2170	10221	A	3101	1	5355	MAGWLRWLWDGWLWGWLACMSEW MMDGWMDGWIDGWMDGWNPIVPETQ VLHEEIELPGSNVKLRYLSSRTAGYKSL KITMTQSTVPLNLRVHLMVAVEGHFQ KSFQASPNLAYTFIWDKTDAYGQRVYG LSDAVVSVGFYETCPSLILWEKRTALL QGFELDPSNLGGWSLDKHHILNVKSGIL HKGTGENQFLTQQPAIITSIMGNGRRRSI SCPSCNGLAEGNKLLAPVALAVGIDGSL YVGDFNYIR
2171	10222	A	3102	205	393	
2172	10223	A	3103	2	158	
2173	10224	A	3104	1	1923	MRPPPALALAGLCLLAPAAAAASYFGRQ SRLMPSRDPHAGALSAAILASGEPSLPR TPSPPSAFALRSGDREGWVDGWDLFPV SGQRIVRVQGEWGKPRTSFAFDYNTKCF GILIREYANIRRAGNIYVFGPLMNDPQQ MASSLQAKTWAFAHQCSAAKGQLHTE LLHEDALKKWTSPAMGWERSRSHDKPR RLSRPLVPPRPFPRAPCAGSSRVRRGLAD QKGQQFPTQSRLLPTGSASFTPDRCAES WCLRPRALIGCSLTSSNPAAPRWAREGG GCGWRCASDKPESHFQSQVDFVPTIGGV APPLHGRGQTSSAPLLMEPHLLGLLL LLGGTRVLAGYPIWWCWAQGCVAVNI FADIYLWVRAILILHLYIHVILYAGKWSQ WAMGAGEKVLRSEAEFRFFSVRQPVPR EHSGYPRQVHEIQSCMGRLEADTKQSG HIVENEIQASIDQIFSRLEILSSKEPPN KRQNGR/LFRVNSLKYDVQHLQTLALRN FQHRRHAREQQERQERAFRC/RSKPFTT *TLDTTITNWDRIHLQF*LPSLPRKFHN GHGIDLILDGHNLDGLRTQRLTLKGT QKKILDIANMLGLSNTVMRLIEKRAFQD KYFMIGGMLLTCCVVMFLVVQYLT
2174	10225	A	3105	1	566	FSGRPTRPRPGAVACRAGDMDPLFQQTH KQVHEIQSCMGRLEADTKQSVHIVENEI QASIDQIFSRLEILSSKEPPNKRQNAK LRVDQLKYDVQHLQTLALRNFOHRRHAR EQRRRQRIEELLSRTFTTNGTQKKDPLTL PNMLGLSNTVMRLIEKR/AFQDKYFMI GGHPA*PLWALFLWFQYRT
2175	10226	A	3106	53	151	
2176	10227	A	3107	432	649	GSHPPAQAGVQWVCSTLQ/LNS*SSNL SLHSCWDYKFKLVCICKGDGKEFLHMH LKKDVTLEKLIPRYV
2177	10228	A	3108	2	677	PPSFQPSDGRGDASGRNAAMAAQGE QLVLVGDGGTGKTTFVKRHLTGEFEKK YVATLGVEVHPLVFHTNRRPIKFNVD TARQEKFGGLRDGYIQAQCAIIMFDVT SRVTYKNVPNWHRDLVRVCENIPVLCG NKVDIKDRKVKAKSIVFHRKKNLQYYHI CAKSNYNFEKPFLWLARKLIGDPNLEF/V AMPALAPPEVVMDFASTYEHDLEVA QTTAL
2178	10229	A	3109	1	549	



2179	10230	A	311	411	640	ADIDSRGPKMSLQSSS*SRGSWMSGN*W SFSSDPTYSGSGGSAPSINPTQGAEECGR TAPGLAGSSTCSPGVGSTR*SHFRPTHPS LENLEDIALTNVLQNRFRVRAEPASLKSPV IALLCMSDLTVGTTVTQLQHLNMTMGVIG SQDGRDQVAALNHQKQGDLPFPRVT LWRKGIDQTFWGLLNTGSELTLPIDPK CRCSPPVKVEAHGCQVINGVLAQIQLTV GLVGPRPVPSTTQGAEECGRAPGLAGS STCSPGVGSTR
2180	10231	A	3110	2	822	APALAPASAASPAFEFTLPPSFQPSDGR GDASGRNAAMAAQGEPOVQFKLVLVG DGGTGKTTFVKRHLTGEFEKKYVATLG VEVHPLVFHTNARGPIKFNWDTAWPWR NSGGLARDGLYIPSPRVPIIMFDVTSRVT YKWNVPNWALGDLVTSV/CENIPHLCCEVA NKVADIKDRKVKAKSIVFHRKENFQYY DISAQKVPTNLKKPFLWALLGSLMGDP* LWNLLPMPPLSPPPR/EVVMPEQLWPAT SMKHDLLEVASDNCLPPDEDDDPVKK
2181	10232	A	3111	116	599	PQVISLPKCCDCRCEPLHLAAEKSLEPTVR ETTKVPGEAKSEPHKNKMDGRGGKPMG GCEGPDAMYVKLISSDGHEFIVKRDHG LTSGETE*KPMLSGPGQFAGGKTHEVN FREIPSHIAIRKVCNVFFTYKV/RATPNS SHPRFPEFPNLAAGNLHWELA
2182	10233	A	3112	84	348	KYTIKTKTVLKKSGIFSTCPKPKSCYDFV PLNAGPIPPKSILGTNGPTHLEMLD*RL NKPTPISQRSPLTQVGHR*TRPTRRRPR T
2183	10234	A	3113	122	518	KSLEFFPPALSPSPALILCHLMQAPYHLK VSWPTDPT/ALEMLD*RLPLPHA*HKG ETHTCGPLSDHTFKAPDPLQICLLSHQG PASPSQQTHPYQPSEVTADSGGTQVDKA NQEEATNTKHHEQEEEQD
2184	10235	A	3114	1	1452	MSAYCLQLGGLQALLALTQTPGHRDSL DAQPAAVLVCGWPWLASFSERTIVGHK EWTIKDKLKNKFKDEFDIVSLPCTLGSH QPQDPMKLPWSITYGRCLAPGDHTVSL VIKLVESASLSLAVSNMMLSDMIRWMPAG CGRCLGLQSESRVCGQCVGMEQVCR VSGPHIRWIPQQLHSCFLFLYPSYPLEP SSNTSFICPHSRTYNGSLLSCIPNSAAAAA PPTPQATSFSPCSPKQRLPTGRVVEGSD HRVHEARLPGNHSRSGVDSAPPTLAHA GLLLTEETLKENGRRAEALRVGVHWR HGTSQGPGRTLWAEKVKPHFRTRGQVY DASSAPVTEHTATELPAGNQSQPGLQE GGLEGTVVTLVSWKVT/MVSRRC*CRY GQRPH/HHLKVLGNQR/PTHLEMLD*RL PLPQRLTPKGKHTPVVPLL/QPFKAPPD PLQICLLSHQGPASPSQQTHPYQPSEVTA DSRWDTR
2185	10236	A	3115	1	414	

2186	10237	A	3116	112	1655	QEHLQRASPRLLQLLPPLPPPPPPAFGGS LSSLGSRMSRQVVRSSKFRHVFGQPAK ADQCYEDVRVSQTTWDSGFWC/SVNP* VLWALICEASGGGAFLVPLGKTGRVDK NAPTVMRR*HS/APVLDIAWCPHNDNVIA/ SGSED\CTVMVWEIPDGGLMLPLREPVV TLEGHTKRVGIVAWHTTAQNVLLSAGC DNVIMVWDVGPAGAAMLTLGPEGPPDA NYRGDWEP\DGGLICTSCRDKRVRIEPR KGTVVAEKDRPHEGTRPVRAVFVSEGKI LTGFSRMSERQVALWDTKHLESPV/S LRKLHTRNGVPVAFPGADTNIVYLRGK G\SGPIRVFENTSEAPFLHYL\SMFS\SKES QRGHGLHGPNRGLEVNKICEIAGFYKLH DGR/CVSPMPKPVPRKSD\AQE\DLGPTQ PQGPDPCLHGLKEWLGGRDAGPLPSSPL KDGYYVPPKSRELARVNRGLDP\GRRRAA PEASGTPSSDAVSRLEEEMRKLQATVQE LQKRLDRLEETVQAKL
2187	10238	A	312	375	519	GMLFPKQITPQSI*VETNAKNV*GGDIAS FMGSTHALFEFPDSHHA
2188	10239	A	3122	200	469	RGGGAGPLTGHVHVLGLGIAHAAADQFD RLAAGICGHSHPHPLGPHCCAPLWS GPQQN*PTADVAESLQLVTVHQSETEDG EFTECNN
2189	10240	A	3123	1	2520	
2190	10241	A	3124	1	1950	
2191	10242	A	3125	1249	2166	
2192	10243	A	3126	1	2424	MVAIHSALESSLLFQEQSQLLYLVTVHE NLNFMAGFTDGSVTLNKGDITRDRHSK TOILHKGNYPTGLAFRQAGKTTHLFVV TTENVQDLQFIVAGDECYLYQPDERDC RDDHVFSLYFMIPFFFTTLVIALPQLVPIT GVCGRYLLLLCWQTF\AVVGILGHFSKT MLLFFMPQVFNFYSLPQLLHIIPCPRHRI PRLNIKTGKLEMSYSKFKTKSLSLGTFI LKVAESLQLVTVHQSETEDGEFTECNM TLINLLLQSPWAHT*EKPHIAPAAAAAFS FLCDHWHPGRFLPSADY*LDFTYGFLQL ATLSLSPSLQPIGTIGKLEPSYVIRKFLD AQRIHNLTA\YLT\HRLQSLANADHTLL LNCYTKLKDSSKLEEFIKKKSESEVHFDV ETAIKVL\QAGYYSHALYLAENHAHHE WYLKIQLEDIKNYQEALRYIGKLPEQA ESNMKRYGKILMH\HIPEQT\QLKGLCT DYRPSLEGRSDREAPGCRANSEEFPIFA NNPRELKAFLEHMSEVQDPSQGIYDTL LELRLQNWAEKDPQVKEKLHAEAISLL KSGRFCDVFDKAWFQQIMHYHMQHEQ YRQVISVCERHGEQDPSLWEQALSYFAR KEEDCKEYVA\VLKH\ENK\NLMP\LLV VQTLAHNSTATLSVIRDYLVQKLQKQSQ QIAQDELVRVRYREETTRIRQEIQLKAS PKIFQKTKCSICNSALELPSVHFLCGHSF HQHCFESYSESDADCPTCLPENRKVMD MIRAEQKRDLDQFQHLKCSNDSFS VIADYFGRASPNFIFYV
2193	10244	A	3127	1	411	
2194	10245	A	3128	2	243	
2195	10246	A	3129	1	1176	
2196	10247	A	313	640	975	VPWEAGGSMSCIFYPRQSEQSHNIVKSK RPVTFQQNRCQKGGGHSADVSTCQCF QCSHREQGFAKPQFSYL*NGGSNSFYLT GCFDNLITSVFCSVRFIHGPKAIKGYH
2197	10248	A	3130	2	496	
2198	10249	A	3131	2211	2568	

2199	10250	A	3132	100	2726	AMMGPIPGPHLLDPLLPSSFCCLPPGITV CDSCRGSLVFGDMEGQIWFLPRSLQLTG FQAYKLRVTHLYQLKQHNILASVGEDEE GINPLVKIWNLEKRDGGNPLCTRIFPAIP GTEPTVVSCSLTVHENLNFMAIGFTDGSV TLNKGDITDRHSKTQILHKGNYPTVGL AFRQAGKTTHLFFVVTENVQSYIVSGKD YPRVELDTHGCGLRCSALSDPSQDLQFI VAGDECYVLYQPDERGPCFAFEGHKLIA HWFRGYLIIVSRDRKVSPKSEFTSRDSQS SDKQILNIYDLCKNFIAYSTVFEDVVDVL AEWGSLYVLTRDGRVHALQEKTQTQKL EMLFKKNLFEMAINLAKSQHLDSDGLA QIFMQYGDHLYSKGNHGDGAVQQYIRTIG KLEPSYVIRKFLDAQRIHNLTAYLQTLHR QSLANADHTLLNLCYTKLKDSSKLEEF IKKKSESEVHFDVETAIKVLQRAGYYASH ALDLAENHAHHEWYKIQLEDIKNYQE ALRYIGKLPFEQAESNMKRYGKILMHHI PEQTTQLLKGLCT*LSAQPRRPQR*GGPR LAGPTLRSFIFIFANK/HPRDLKAFLEHMS EVQPDSPQGIYDTLLELRLQNWAHEKDP QVKEKLHAEAISLLKSGRFCDVFDKALD LCQMHDQDGGGLYLEQGLFQQIMHY HMQHEQYPAGQSA/CCERHGEQDPSLW EQALSIFARK/KEDCKEYVA AVLKHIE GNLMPPLL VVQTLAHNSTATLSVIRDYL VQKLQKQSQIAQDELVRVRYREETTRI RQEIQELKASPKIFQKTKCSICNSALELPS VHFLCGHSFQHCFESYSESADACPTCL PENRKVMDMIRAQGTPEPRFMSINSQHQL QVLQ
2200	10251	A	3133	11	707	AKMGAYKYIQEALWRKKQSDVMRFLLR VRCWQYRQLSALHRGSRPHR/RPDKVH RLGYKQAKQGYVIYRIRVRRYI*DSCSR DRRGGRKRPVSKGATFGKPVVHHGVNQ AKVWFYFPTSVAEIERPGRHCGALRVL NSYWVGEDSHLPNFLGVIPHGSHSHKAI R/RNP*PPQWITQTQSHKHREMRGLTSA RPERAVGLGKGHKFHHHTIGVSRRAAW RRRNTLQAPPLPLI
2201	10252	A	3134	1	333	
2202	10253	A	3135	1	1530	
2203	10254	A	3136	1	554	ILSQVRCQAQLAQAAGGGLSFRAASSL PVSPSLAVSMKAFSPVRSIRKN/SALSDH SLGHSRSK/TPVD/DPDGALLYNMKDCYS KLKELVPSIPPEQRR*ARWEILQHVIRL TSWDLADSPWDLAFPLIVQPGIHQRTRG RNQVRSRTPLGPPSTRDISILSFAGLLEFPS ELMSNDSKVALCG
2204	10255	A	3138	3	251	
2205	10256	A	3139	1	1674	
2206	10257	A	314	22	297	GKEKLSHSAWAPKSQNSNSSASSWSN QSQAQPRFKGEDI/ESHLLMGREALS*IQS /GRLVYLQSLST*RFSTASPEQLDTECRL VHSQTL
2207	10258	A	3140	1	648	MSLRKLTIMVEGKGGPNIPHACGCRQRS SIKVSLPAVTSKSESPKEPEQLRKLFIGG LSFETTESLRSHFEQRRTLTDCAVMRD PNTKCSKGFGVITYATMEEKYHTVNGH SCEARKALSKQEVASASSSQ/GRSGSGN FGGGHGGGFGGNDNFHGENFRGHSSF GGSHGGSGYGGSGDDYSFGGNDGSGNFG GGGSYNDFGNYSNQSSNFGPM

2208	10259	A	3141	579	2102	SPKEPEQLRKLFIGGLSFETTDESLSRSHFE QWGTLTDCVVRFGDKAVKQPISLAYL GAVFSECL*K*LIAL*LELCWQRNVLL*F *KLTS*I*G*WETGRTFYKRLV*SFLLPYS KLK*QKLLRSDFLHKLTLFSGMRDPNT KRSRGFGFVTYATVEEVDAAMNARPHK VDGRVVEPKRAVSREVSFFFFFLNLL GYVLL*T*DSGVF*TYQNLFLEYRLC*SK PMVFLLLDSQRPGAHLTVKKIYVGGIK EDTEHHLRDYFEQYGKNEVVEIH*LDR GQWPRKRGFVTFDDHDSVDKIVSKY QIVAFSGSTICMAF*TLIPCCIIYVFFLVQ KYHTVNGHNCEVRKALSKQEMASASS QR/GYACCLIKP*R*L*VTPV*MI*CLNFM S*GRSGSGNFSGGRGGGFGGNDNFGRG GNFSGR/GYVWFIYM*F*LLTIFAMKILQ YGNCIQNVTLSPSHT*NLKFLTGGFGGS RGGGGYGGSGDGYNGFGNDGKFFRNK
2209	10260	C	3142	42	152	MIXXXXXXXXXXXXXXXXXXXVSPSAFA PXXXXKSLG*
2210	10261	A	3143	3164	3255	
2211	10262	A	3144	12	336	SPVQL*F*LFLVFC*LWSWSAVVYLGPL GTPSADAHT/AGLSKTPPHWAARARLDD VFSLRTFSSHSLNMELVQDLTASAPMYS STSRDPP/CLGLPKCWDYKREPPRAH
2212	10263	A	3145	602	744	TPASLKIPVE**NTLLAKMVSIS*PRDLPA SASQSAGITGVSHRARC
2213	10264	A	3146	269	483	
2214	10265	A	3147	2	988	KYPPPAVLWFFGFFVLRRSLALSPRLECS GMISAHCKLCLPGSRHSPASASRVAGTT DVHHHAQL/L/YVFLVETGFHRVSQDGL NLLTRLHLPKCWDYR/R*ATTPGLCFVF* KKRNAREGGROPDPHKS*FL/VFFFLFFL KWSL/DSVSKAGVQWHGLSSLQAPPRGF TPFSCSLSPSSWDYRRPLPRANFFVFL** VDGGFTVLARMVLIS*PRDLPASASQRA UTGLSHCAWSEFF/CFKGTGSHSVTHARV QRHNLDSLEA*TPGLN*SSRLSLPSSWD YRSTPPSPANFCSFSRDGVSPC*PGWSRS SDLVIRPPRPKVPGLQA
2215	10266	A	3148	2	608	RDSPPRSLDSGARRDAPPHSPAECRAH AATWRLKPRPHRPHSLTAPLPVHWAGT TEPLSPRPATGTREPRPLHFPATPRSHS/ WRLARPCRPQGPS*DRLFSAGAGPGVVS CLDREKNAGHWLSSAFALVWLWLTEH WLLLVGFIGYVKAGSVYPGCRACFFW AVLAGLGCLPAVSGIPRERFWVPRLHL VPWLALWE
2216	10267	A	3149	131	453	
2217	10268	A	315	152	437	GLRLCLSRPLTRPGDDSVGGSAMASGAG GVGGGGGGKIRVTRCHQGPQPYQQGR QQHQVWDPDAAVAWRVGKLGWRGRA VRGPGAPRGADRR
2218	10269	A	3150	403	787	MGRIFLDHIGGTRLFSCANCDTILTNRSE LISTRFTGATGRAFLFNKVNLQYSEVQ DRVMLTGRHMRDVSICKNCNSKLGW IYGVWPLKDSQRF*GKGRR*SGERIVLVS EELRALEHVPPDNS
2219	10270	A	3151	171	382	KNSYKCEECGKIFNEYSHLIARK/RIYT*E KLYQYKDCEKAINVCSHLTQHQRV/H*K KYYKFNYCQKVQKI
2220	10271	A	3152	76	195	VHLLNPQHMLPSTHKQRRTTL*KGHAE HLQYYLNNQKLS

2221	10272	A	3153	2	634	VWVWESLNREDLWPCFLRRILGGSSYSTA EMVSGQTLQRAHLREAASISLNSQGVW RKSARFSQLERGTEEQQLQIPDLGQHPS SKAPVFPQVQAHPRFQTPGPHGKLQRN QDPGQLQ*IPMLGQTPWTQATGPTI*TQP SGRSPCSHYSGMSTDSGFMLAHSLTQVS SQPTCRLLEACPWTSSGGLPRISGWT RQVFGSVDRDLISP
2222	10273	A	3154	275	463	GKFFSLCETLFPVSGVGSFFSSCTMDSSRS LGVGSKNSHFLA*NTDLRLSLCPFPGW KEDIKF
2223	10274	A	3155	5904	7919	FMFINMSVCRLITTKYLLLLFLHESLILS ENLRKDVEAVTGSPASQTSICIGILLRSA ELALLHPVDQANTLKSPVSESVPVVP DYLPTENGDFLSSKRKQISRDIRRSVT VNHMSDNRSMSVDLSHIPKDPPLFKSA SDTNLAKRAFPMDYLSDKHLGKISEDE SSGLVYKSGSGEIGSETSDKKDSFYTDSS SILNYREGFRIYLSFG*VMGNQNILSSTL TSKGNETVESIFKAEDLLPEAASLSENAD ISKEETPPVRITLKSSQSSLSGESLRERLPH PNLGFPLVFSYKNMKRSSSQMSFEATIS LDSMILEEQLLSDGSDSHMFLEKGNRK NSTTNYRGTAESVNAGANLQNYGETSP DAISTNSEGAQENHDDVLMVVVFKITGV NGEIDIRGEDTEICLVNQVTPDQLGNIS LRHYLCNRPVGSDQKAVIHSKSSPEISLR FESGPGAVIHSLLAEKNGFLQCHENFS TGFLTSSLMNIQHFEDETVAIVMPMKI QVSNTKINLKDDSPRSSTVSLEPAPVTVH NDHLVVERSDDGSFHIRDSHMLNTGND LKENVKSDSVLLTSGKYDLKKQRSVATQ ATQTSPPGVWPQSQANFPAEFSGLHLGE QLMEENESLKQELAKAKMALAEAHLE KDALLHHIKKMTVE
2224	10275	A	3156	149	382	ARHCGSCP*SQHFGRSR*AEHLRTGV*D QPAQRGETPSLWKNTKIRRAQWWCPPVI PATSGGLRQENYLNPRQRQLQ
2225	10276	A	3157	162	342	
2226	10277	A	3158	1	1995	FRLVTPGVPAFSGCGRRHGRGTRGRAM ASCVGSRTLSKDDVNYKMHFRMINEQQ VEDITIDFFYPHTITLLSFTUDSLMYFAF TTDDSV*DNWIRGILSGILLFLIKV*AFP NGPLTRHPALWRMVFLSELYFLFLVF LLFPEFEQAKSLMDWLDPNLRYATREA NVMEYAVNCHVITWERIISHFDIFAFGHF WGWAMKALLIRRYGLCWITISITWELTEL FFMHLLPNFAECWWDQVILDILLCNGGG IWLGMVACRFLERRTDHWASFKDIHTTT GKIKRAVLQFTPASWTYVRWFDPKSSFQ RVAGVYLFMIHWQLTELNTFFLKHIFVF QASHPLSWGRILFUGGUNSFPQLRQYYA YLTDTQCKR/L*GTQCWVFGVIGFLAAI VCIKFGQDLFSKTQILYVVLWLLCVAF TFLACLYGMIWYAEHYGHPKRPTPECE DGTYSPEISWDHRKGTGSEDSPPKHA GNNESHSSRRNRHHSKSVTNGRWER NEKPWVNSKMFPECLGTEEGKWELHLG TPRGGGSRAHRGKPGRGEGTLGVILRSL SLCFPTDLGRVQADHRLGGPFANVGSLL TSALDMRSPVAARCVERETVAISFHSCQ EQLRAMLDRCGSVNIFPSDEALTPWLMD WSPVFNFIFYESTFPID
2227	10278	C	3159	410	538	
2228	10279	A	316	3	609	
2229	10280	A	3160	4	334	FFPKALIFCREVGPIPPPKIRFP/SPKFPGN RFSPPRVVKPPPGP/SPFKRPPIRKKILPCQ PP*TLAPRIL*KGPP/PSSSSG*NPYYLFIQ QKTEYLLWSRPCWHCEQR

2230	10281	A	3161	1	1130	PLLPTSLSVEDAAILLQQVMRAFASKQAST VVFSDTVVVSEKFINDCTELFRELHMQK AEKEMKNNPVHLITEEDLKQISTLESVST SKKDKKDERRRKATEGSGSMRGGGGGN AREYKIKKVKKKGRKDDSDDESQSSH TENEESGYDKKDENILEDVKWGKTSQFL EIFQDIEKARDKTLEADSELESVFMSTT SASGTGRKRTIKDLQEEVSNNYNNIRLFE KGMKFFADDTQAALTKHLLKSVCTDITN LIFNFLASDLMMAVDDPAITSEIRKKIL SKLSEETKVALTKLHNSLNEKDQHALLV KYQGLVVKQLVSQSKKTGGDYPLNNE LDKEQEDVASTTRKELQELSSSIKDLVLK SRKSSVTEE
2231	10282	A	3162	20	2478	RVCSSASTASQAVMADAWEEIRLAA DFQRAQFAEATQRLSERNCIEIVNRLIAQ KQLEVVHTLDGKEYITPAQISKEMRDEL HVRGGRVNIVDLQQVINVDLIHIENRIGD IHKSEKHVQLVLGQLAIDENYLDRVQGQEV NDKLQESGQVTISELCKTYDLPGNFLTQ ALTQRLAIIHGHIDLDNRGVIFTEAFVAR HRARIRGLFSAITRPTAVNSLISKYGFQE QLLYSVLDELVNSGRLRGTVVGGQRQDK AVFVPDIYSRTQSTWVDSFFRQNGYLEF DALSRGIPDAVSYIKKRYKTTQLLFLKA ACVGQGLVDQVEASVEEAISSTWVDIA PLLPTSLSVEDAAILLQQVMRAFASKQAST VVFSDTVVVSEKFINDCTELFRELHMQK AEKEMKNNPVHLITEEDLKQISTLESVST SKKDKKDERRRKATEGSGSMRGGGGGN AREYKIKKVKKKGRKDDSDDESQSSH TGKKKPEISFMFQDEIEDFLRKHIQDAPE EFISELAELYIKPLNKTYLEVVRVFMSS TTSASGTGRKRTIKDLQEEVSNNYNNIR LFGKRGWKFFADDTQGWLLPKHLLV QCVLISLNLNLFNLGFGILMDGQ*DDPG RPFTSELKELSKLSEETKVALTKLHN SLNEKSIEDFIFCLDSAAEACDIMVKRG DKKREERQILFQHRQALAEQLKVTEDPAL ILHLTSVLLFQFSTHSMHLHAPGRCVPQII AFLNSKIPEDQHALLVKYQGLVVKQLV SPSKKTGGDYPLNNELDKEQEDVAST TRKELQELSSSIKDLVLKSRKSSVTEE
2232	10283	A	3163	1	389	IPSEISRSVAFSL/LPLLSVSGLEAIQTPK NQVYSRHPPENGKSKFLNCYVSGFHPSD IVGDLNMNGERIE*A*HSDLAFRKDWAF YLLDYTEFTPT/EKDEYACRVNHVTLSP KICKWDRDMLSAMEA
2233	10284	A	3164	2	409	RPRVRPRVRSIRAEMSRVALAVLALLS LSGLEAIQRTPKIQVYSRHPAENGKSNFL NCYVSGFHPSDIEVDLLKNGERIEKVEH SDLSFSKDWAFYLLYYTEFTPT/DEY ACRVNHVTLSPKIVKWDRDM
2234	10285	A	3165	26	299	
2235	10286	A	3166	11	486	
2236	10287	B	3167	198	282	XPSLEDLSNSIQKLHLAENAEPEEQSAA*
2237	10288	A	3168	80	827	AQQAVLARSKLESCLRELHGHNRSLKEE GVQRAREEEERKEVTSHFQVTLNIDQL QMEQHNERNSKLRQENMELAERLKKLI EQYELREEHIDKVFKHKDLQQQLVDAK LQQAQEMLKEAEERHQREKDFLLKEAV ESQRMCELMKQOETHLKQQLALYTEKF EEFQNTLSKSSEVFTTFKQEMEKMTKKI KKLEKETTMYSRWESSNKALLEMAEE KTVRD/ERTGGPAGKNPTAGEAVPGTAD RAQ
2238	10289	A	3169	1	2511	

2239	10290	A	317	1	949	MGSCAARASLTSTTPCSTAPSPINHPKAE ECERTTAQDWQAAPPAAPVRDPLGEP WAPESGGDVESLYIYLRDCKYTNQHPVF SSRFVNPIDTLYLAALVGPWKTFMSSS GIVNTPIGTLYLAQVTVPPPLHTRFFALSP RQPRSFKNGLLFQTGTTLNPLSGYSSDY KGFRFRNHPQTGFSPAGANQRGPLVAT LSGPGGEGQSAVVPVSLVKRKTTLAPNT QTASPRALADSLMQLARQVSPGKRAV SATAINLKVCKHTSQHPVFSSRFVSAPID TLYLAALVRTWRVFMSSSGIVNTPIGT YLAQGL
2240	10291	A	3170	93	517	GRGHLGG/VWC*RSQERAQQIKEASAEIT /CSWLQMKQNRKPSQEKTRDTTRMENP DRGFVPGKECSFEQLEHVREMQEKLARL HFSLDVCGEEDDEEEEDGVTEGLPEEQ KKTMAADRNLQDQLSNVGSCLGALVPGG MRGGE
2241	10292	A	3171	3	348	FFAFFLGLIPFNAPLPHSTWGAAEHPPES VKSHSLKRMRGAVW/CLRGTPQR/HCS SGSAFSARCSFWIELLRSSRLSSWSRLR SAIVFFCSSGKPLSDPNPLPHRPPPHTH PG
2242	10293	A	3172	2618	5946	PGCNFSLDVCREEDDEEEEDGVTEGLP EEQKKTMAADRNLQDQLSNARGRAWQL APMEPELLVRKVSALQACVRGFLVRRQF QSLRAEYEAIVREVEGDLGTQWTEGRI PRPRFLPEKAKSHQTKAGDRVANPEQ GLWNHFPCEESEGEATWEEMVLKKS SSANQGS�CRDHSSWLQMKQNRKPSQ KTRDTTRMENPEATDQRLPHSQPQLQEL QYHRSHLAMELLWLQQAINSRKEYLLL KQTLRSPEA
2243	10294	A	3174	16	319	LGTRPAHRSSQ*GKGSPLPPGAPLISRG GKEGGPGDRAAHADFLPAEEGAHEGM/R GSHGSPLIAPLPTYPHPPSGLFPLGALPLA RPRHQGAALGSVHEIQ
2244	10295	A	318	1	4425	
2245	10296	A	3180	417	736	YGLGAVAHACNPSTLGGQAGQITRLAV QDQPDQHCETPSLIKMQKN/LPGHGGVC LQSLLRGLRQGNCLNQGGGSCSEPRSH QCTPAWAIE*ESVSKKKKKKKLVV
2246	10297	A	3181	1	2061	MGA VRDELHSLVVPPLMGRGAQTMA AAALRDPAGCVTFEDVTIYFSQEEWVL LDEAQRLLYCDVMLENFALIASLGLISFR SHIVSQLEMKGEPWVPDSVDMTSAMAR GAYGRPGSDFCHGTEGKDLPEHNVSVE GVAQDRSPEATLCPQKTCPCDICGLRLK DILHLAEHQTTTHPRQKPFVCEAYVKGE FSANLPRKQVQNVHNPIRTEEGQASPV KTCRDHTSDQLSTCREGGKDFVATAGFL QCEVTPSDGEPHEATEGVVDFHIALRHN KCCESGDAFNKSTLVQHQRHSRERPY ECSKCGIFTYAADLTQHQKVHNKENP YECFEGGKFFKPAALSLVKHRRVHTGES HVC GDCGKFFSRSSNLQHKRVHTGEKP YECSDCGKFFSQRSSNLHHRVHTGRSA HECSECGKSFNCSSSLIKHWRVHTGERP YKCNCEGKFFSHIASLIHQIVHTGERPH GCGECGKA FSRSSDLMKHQRVHTGERP YECNECGKLFSSSSLSNHRRLHTGERP YQCSECGKFFNQSSSLNNHRLHTGERP YECSECGKTFRQRSNLRQHLKVHKPDRP YECSECGKAFNRPTLRHQKJHIRERSM ENVLLPCSQHTPEISLRTDLIRALSSTML NLVHPSTHTGEVP*EC*LCWKLSGDKLH SLTVEFISVFSLLGL

2247	10298	A	3182	441	1074	QVRVQSLKK*CWG/FNWGHSGGKI*KQI GPYLNTG/TRLKSKWIVPQNCIISRRQQG KRVVHLGLGKDFLNPTPKAQSM/RGKIDK LYFIKIENFSLKGTIRRTKRQAVEWQK/IV LQNISDK*VASRLHKEVSKLNKVPIVDL MRCF/RPELAASGPCSLSFSCFQH*IQNV LLEIQVRSHQPSSELSNRRPWHKSVHNSL QCWAKHEAPLFSLL
2248	10299	A	3184	178	488	VSSTVFGNTVRNKTEDDSGGNWEPRTI LQASGKLKNPKARLASECLSPFDSTGKAI HLCQVCGRASRSHYSLGHH/MRHSVHG E*S*KCPGCGKGFSTKLDLRW
2249	10300	A	3185	7	310	KKRSHCAQAGLELLSGQLG*TSSVQKIR KLAGCGGVHPWSQLLERLRWEDSLPQG GQGCSEP*SHHCTPAWATE*DPVSNNNK QKQPKESNLSRATSRP
2250	10301	A	3186	65	203	KGDFQGHQGPWDAPP*PAFWWQREAR GEGEAMSSQSPCRGRGNAEMYRPSAQPE TGPASG**TEAARGSSGWAEPWPRG*KP PEFPMRLGWPFPTPGAFSLPILCDEERP* GQRSSGCESQQLRSPRETELQVTSPTCF SAGPRRPGPAPGGPQAARAYCCHLKTSS EPTFHQAPTQAEVSWFSPA/PPADKEMT SMATPEKCPSTQVAPAIRKAALPHPERGN YFLSAAWPQGAPFLWGSASPFVALPWS PRAGAAPLCPGKAPPSKTRLGRAVTFP* AEGGTGRGRGHVAVPLPWERQGRNV
2251	10302	A	3188	1	2559	
2252	10303	A	3189	259	3222	
2253	10304	A	319	160	747	VLNGSGRPSQSKKHFPKPGTFGGASVH QMFIMSLPA/GPDLSGFDEDDKGWPNQ LDMSDYSSSYQDVACYGTLPRDSPRRN KEGCTSKTPHALTVSPFKGIFSSATKVQ APNACKRGA*GKG*PWEKGASSKPGRD FLREGRKMSWKLFRNKLIISSQPYVPVGV CLTSVFTIASLGEQGMVFLKVDFLFLT G
2254	10305	B	3190	114	2876	MDKFLDTYTLPRLNQEEVESLNRPTGSE IEAIINSLPTKKSPGPDGFTSEFYQRYKET VVCRLSPPSFNGGLPLGSDLVIFYAPGPQ KIIWVMVHVHGALALKDGFSPLDVGVHG FCRFRNHHQTGFSPAGANQRDPLAATLS GPGGEGQSAVARLTGEKKNHPGAQYAN RLSPRVGRFINAAGTTGFPTGKRAVSAT QLMVKDDVTYAIKLSWCWPLDIIPSCLA LHRIETELMGKFDKGRLPHTPHMLRLA IE



2255	10306	B	3191	1	2640	MEIRGRVEQRVGYTIEQINHM RDVFGTR LRR AEDVFPVIGVAAHKG G VYKTSVSV HLAQDLALKGLRVLLVEGN DPQGTASM YHGWV PDLHIHAEDTLLPFYLG EKDDVT YAIKPTCWPGLDIIP SCLALHRIETELMG KFDEGKLPTD PHLMLRLAIETVAHDYDV IVIDSAPNLGIGTINVCAADVLIVPTPAE LFDYPSALQFFHMLCDLVKNVDLKGFEF GELAPLYGCWGLRTGI AVACAPHHASL NLHGLNQIRNVKKQSVYLMNLRKSGTL GHPGSVDETTYERLAEESLDSLAEFFEDL ADKPYTFEDYDV SFGSGVLTGKLGRDL ATYVINKQTPNKQIWLSSPSSGLKRYDW TEKNWVYSHDCVSLHDLAAELTKALK TKLDLSSLAYSGKELDAQPGYYMLHAQ YMLRPPLSSPMQHRAPETGPTSRNSVLN AVTPPAPTTPSPFLFDSRGSPRRKTYQNV QQFIDEGNYTSGDNHTLRDPHYVEDKG HKYLVFEANTGTENGYQGEESLFNKAY YGGGTNFFRKESQKLQQS AKKRDAELA NGALGIIELNNDYTLKKVMKPLITSNTVT DEIERANVFKMNGKWYLF TDSRGSKMT IDXGSPXKIRLFYTDYSGKHYGKQSLTT AQVNVSKSDDTLKINGVEDHK TIFDGDG KTYQNVQQFIDEGNYTSGDNHTLRDPH YVEDKGHKYLVFEANTGTENGYQGEES LFNKAYYGGGTNFFRKESQKLQQS AKK RDAELANGALGIIELNNDYTLKKVMKPL ITSNTAAANQESSHVQQQALALEQQFLE RTQALEAQIVALERMRAADQTTAKQGM CTQVHLTNTSRHAGRPSKCQFCSTRRQR HRLSDPKQDLGNRRFSPPP*
2256	10307	A	3192	1	454	MERRNRRTGRTEKARIWEVTDRTVRTW IGEAVAAAAADGVTFSPVPTPHTRHSY AMHMLYAGIPLKVLSLMGHKSISSTE YTKVFALDVAARHRAIRVPRQQGDYRT RIWK FEDGLSNVLVIQLNKLIICVMCLVR DCDVLKTYFHL
2257	10308	A	3193	2758	2946	
2258	10309	A	3194	2372	3570	EALLPGDQDSQSGKGVAAREVWFLPSSF APVLLRLVGNHHVGDNSIDSWKNAGR/V FKDSKFDANDPILKDQTQEWSGSATFT SDGKIRLFYTDYSGKHYGKQSLTTAQVN VSKSDDTLKINGVEDHK TIFDGDGKTYQ NVQQFIDEGNYTSGDNHTLRDPHYVED KGHKYLVFEANTGTENGYQGEESLFNK AYYGGGTNFFRKESQKLQQS AKKRDAE LANGALGIIELNNDYTLKKVMKPLITSNT VTDEI

2259	10310	B	3195	1	2232	MKLMETLNQCINAGHEMTKAIAIAQFND DSPEARKITRRWRIGEAADLVGVSSQAIR DAEKAGRLPHPDMEIRGRVEQRVGYTIE QINHMRDVFGLRLRAEDVFPPVIGVAA HKGGVYKTSVSVHQAQDLALKGLRVLL VEGNDPQGTASMYHGWVVDLHIHAEDT LLPFYLGKDDVTYAIKPTCWPGLDIIPS CLALHRIETEFMGKFEEDNNAGMVRVL QPFTSDEKKSIVSTLTTFPGKHLRRDKSLT TAQGCCKINNKTSPETSPDLALKGLRV LLVEGNDPQGTASMYHGWVVDLHIHAE DTLLPFYLGKDDVTYAIKPTCWPGLDII PSCLALHRIETELMGKFEDEGLPTDPHL MLRLAIETVAHDYDVIVIDSAPNLGIGTI NVVCAADVLIPTPAELFDYTSALQFFD MLRDLLKNVDLKGFEVDVRIILTKYSNS NGSQSPWMEEQIRDAWGSMVLKNVEPE NGEVGKXGSPQLINQEKKMFRIRNRSYI DRDSEYLLQENEPDGLTDQKLLLEDLQKK KNDLRYIEMQPFPLVSSSRVWVKRGELT AYVEDTVLFSRRTSKQQVYFFLFNDVLI TKKKRRSDSSLREGDNQAYKETYGVS HITRHDMLQIPKQQQNEKYQVPQFDQST IKNIESAKGLDVSDAGMVPVLQPLHLTE KSGYSTLTIPVNLRTSLTQRKVMCQNL VTHLKSTEWEKHKTIVDGERKTYQKRS AVFRMGILHSATTIR*
2260	10311	A	3196	1260	1340	LPMALAVGFCFRFNHHQTGFSPAGANQ RGPLAATLSGPGGEGQSAVARLTGEKK NHPGAQYANRLSPRVGRFINAAGTTGFP TGKRAFGFCFRFNHHQTGFSPAGANQRG PLAATLSGPGGEGQSAVARLTGEKKNHP GAQYANRLSPRVGRFINAAGTTGFPTGK RAGFCFRFNHHQTGFSPAGANQRGPLA ATLSGPGGEGQSAVARLTGEKKNHPGA QYANRLSPRVGRFINAAGTTGFPTGKRA QAQAK*WHYREPLLLRAQLTNPPSGQQL KSVQDQWPVQKQFSSGSDLYQLHPFHVQ HFLEPCFPRHPEFAPPSTGTESHYYCWIW
2261	10312	B	3197	200	2602	MQLARQVSRLESQGVKHEGQHTKMSQ VLWRSQEENPATLGNNIQLFDWIPQNDL LGHPKTKAFITHGGTNGIYEAIYHGVP VGVPMFADQPDNIAHMKAKAAVEVN LNTMTTRPGGEGQSAVARLTGEKKNHPG AQYANRLSPRVGRFINAAGTTGFPTGKR AVSATQLMDFADFGTTIKQDFRLLGQTS VDRLLQLSQQAQVKGQQLLPVSLVKRK TTLAPNTQTASPRALADSLMQLARQVSR LESGQDFADFGTTIKQDFRLLGQTSVDR LLQLSQQAQVKGQQLLPVSLVKRKTTLA PNTQTASPRALADSLMQLARQVSRLES QILPDFGPHHQTEFSPAGANQRGPLAAT LSGPGGEGQSAVARLTGEKKNHPGAQY ANRLSPRVGRFINAAGTTGFPTGKRAVS ATQLIPKVDKTTKIGKKQSRKTGNSKNQ SASPPPKESSSSHATEQNWTFENDELRE EGFKRSNCSELQEEVQTHGKEVKNEKK LDEWLTRITNEEKPLKDLMEKTKAQEL RDKCTSLSRFNQLEERVSVMEDQMNE MKREEKFREKRIKRNEQSLQEIWDYVVKR PNLRLIGVPESDGENGTKLENTLQDIIQD FADFGTTIKQDFRLLGQTSVDRLLQLSQ QAQVKGQQLLPVSLVKRKTTLAPNTQT ASPRALADSLMQLARQVSRLESQHAPC MKSNNALIVILGTVTLDVAVGIGLVMPVL PGLLRDIVHSDSIASHYGVLLALYALMQ FLCAPVLAALSDRFRRTVLLASLLGATI DYAIMATTPLVLIYPLVNSPSC*

2262	10313	B	3198	1	3198	MKLMETLNQCINAGHEMTKAIAIAQFND DSPEARKITRRWRIGEAADLVGVSSQAIR DAEKAGRLPHPDMEIRGRVEQRVGYTIE QINHMARDVFGTRLRRAEDVFPVIGVAA HKXSPVIGVAAHKGGVYKTSVSVHQAQ DLALKGLRVLLVEGNDPQGTASMYHG WVPDLHIHAEDTLLPFYLGEKDDVTYAI KPTCWPGLDIIPSCALHRIETELMGKFD EGKLPTDPHMLRLAIETVAHDYDVIVID SAP
2263	10314	A	3199	1	2259	
2264	10315	A	32	603	855	GGWIMRSGVRDQPDQHGETLSLLKLQK LAGHGGACL*SQLVRRLRQEYHLNPGG GGCSEPRFVGHCAWATE*DSVSGKKK KKK
2265	10316	A	320	1812	5065	PNKTGGKTVSDGLHHPSQLHSKLENDQ GFYNVDSSTGFHNKTNPVGFPRKSPFLV MGVDWAETRSMQMMQMRAPMSDDIL ARDGRSRLSRGNRRNGGGCRDDDDG GGAGAVRTGEGATEELPPVGGRRVPQH RGELFVLSSAGDLHRDRDTHRGAGSG GGSAMASGAGGVGGGGGKIRTRCHQ GPIKPYQQGRQQHQVSSSRPDLSGFDED DKGWPEQLDMSDYSSSYQDVACYGTL PRDSPRRNKEG
2266	10317	A	3200	1	2418	
2267	10318	A	3201	1907	5097	TSKKIVKQAPVLTFTTA/LLAGGAIAQFA KENNHKAYKETYGVSHITRHDMLQIPKQ QQNEKYQVPQFDQSTIKNIESAKGLDVW DSWPLQNADGTVAEYNGYHVVFALAGS PKDADDTSIYMFYQKVGDNDSIDSWKNA GRVFKDSKFDANDPILKDQTQEWSSG ATFTSDGKIRLFYTDYSGKHYGKQSLTT AQVNVKSDDTLKINGVEDHKTIFDGDG KTYQNVQQFIDEQNEGILPISEPPKQDFR LLG
2268	10319	A	3202	891	2136	GATQAFAKENNQKAYKETYESAKGLD VWDSWPLQNADGTVAEYNGYHVVFAL AGSPKDADDTSIYMFYQKVGDNDSIDSW KNAGRKFDSKFDANDPILKDQTQEW SGSATFTSDGKIRLFYTDYSGKHYGKQS LTTAQVNVKSDDTLKINGVEDHKTIFD GDGKTYQNVQQFIDEQNYTSGDNHTLR DPHYVEDKGHKYLVFEANTGTENGYYQG EESLFNKAYYGGGTNFRKESQKLQSA KKRDAELANGALGIELNNDYTLKKVM KPLITSNTVTDEIERANVFKMNGKWYLF TDSRGSKMTIDGINSNDIYMLGYVNSL TGPYKPLNKTGLVLQMGDPNDVTFTY SHFAVPQAKGNVVTISYMTNRGFFEDK KATFAPSFLMNIKGNKTSVVKNSILEQG QLTVN
2269	10320	A	3203	1	3987	
2270	10321	A	3204	2	247	QGAGFSSSLRMASIFSIHVGTRDLSRLS TILSPLYNTVAPGAN*CRELKLVLDAAD VLSTEVKRVITSSASNITPAFFCS
2271	10322	A	3205	1099	2224	DGQQIALHRLALRELQQAHVHAGLPQQ AKILFDGGSE/TRQNPLQLVHMGPRPL DKKNFQEP
2272	10323	A	3206	1366	2673	
2273	10324	A	3207	1	7035	
2274	10325	A	3208	1	2328	
2275	10326	A	3209	1	2328	

2276	10327	A	321	819	1242	KAYASLSLWQAPSGESRPAPAAADLRGS SG/RPP*TFPNPPCGPHTGCPAGSFISFQ PRCLLVAKSKPGMPVSDEAAYESPWKG GAGAPALGLLGALSSEVADRALQAAPA WAPRDAGRDLPGQDRPQGPAGASLGP SRS
2277	10328	B	3210	1	2541	MPRQVSGSGPGLLVAGQAAGVTGGKK SLCQYRKPDGSGIVSLKIDWIERYQLPQ SYQHRKAGECLLHEYEDLVPIRDTLRLF PGGRYLPRAKHVAPSEPDEQDEQKLRD FADFGTTIKQDFRLLGQTSVDRLLQLSQ GQAVKGNQLLPVSLVKRKTTLAPNTQT ASPRALADSLMQLARQVSRLESGQDFA DFGTTIKQDFRLLGQTSVDRLLQLSQGQ AVKGNQLLPVSLVKRKTTLAPNTQTASP RALADSLMQLARQVSRLESGQDFADFG TTIKQDFRLLGQTSVDRLLQLSQGQAVK GNQLLPVSLVKRKTTLAPNTQTASPRAL ADSLMQLARQVSRLESGQDFADFGTTIK QDFRLLGQTSVDRLLQLSQGQAVKGNQ LLPVSLVKRKTTLAPNTQTASPRALADS LMQLARQVSRLESGQDFADFGTTIKQDF RLLGQTSVDRLLQLSQGQAVKGNQLLP VSLVKRKTTLAPNTQTASPRALADSLMQ LARQVSRLESGQDFADFGTTIKQDFRLL GQTSVDRLLQLSQGQAVKGNQLLPVSL VKRKTTLAPNTQTASPRALADSLMQLA RQVSRLESGQDFADFGTTIKQDFRLLGQ TSVDRLLQLSQGQAVKGNQLLPVSLDD VTYAIKPTCWPGLAIIPSCALHRIETELM GKFDEGKLPTDPHMLRLAIETVAHDYD VIVIDSAPNLGIGTINVVCAADVLIPTPA ELFDYTSALQFFDMLRDLKKNVDLKGFE PDVRILLTKYSNSNGSQSPWMEEQIRDA WGSMVLKNNVRETDEVGKGQIRMRTVF EQAIDQRSSTGAWRNALSIWEPVCNEIFD RLIKPRWEIR*
2278	10329	A	3211	1	3849	
2279	10330	B	3212	1	6724	MDNFFAPVFTMGKYYTQGDKVLMLPLAI QVHHAVCDGFHVGRMLNELQQYCDWE QGGADFADFGTTIKQDFRLLGQTSVDR LQLSQGQAVKGNQLLPVSLRKQNTSRPP SMHVDFFVAAESKEVVPQDGIPPKRPL KVSQKISSRVENLNTLNLKELMLCHHQ EEGAGEDLDRVYDLMIFFVRENRTQVD HHLCMWMTLLLLKVKKWLKMEYLHQ NGHSKYHRRFLPVVGFQAEEDGVLSTV RIGFSHLL
2280	10331	A	3213	532	1232	
2281	10332	A	3214	8749	11698	CSWHDRFPDWKAGRILPISEPPSNRIFAC WGKPAWTGLLQLSQGQAVKGNQLLPVS LGFRGPPASNPGGAPGSASVAAAAVA AKAAAAAAPVDNAAPHSAKLEERRK PDPRRDFADFGTTIKQDFRLLGQTSVDR LLQLSQGQAVKGNQLLPVSLVKRKTTLA PNTQTASPRALADSLMQLARQVSRLESG QDFADFGTTIKQDFRLLGQTSVDRLLQL SQGQAVKGNQLLPVSLVKRKTTLAPNT QTASPR
2282	10333	A	3215	3	452	
2283	10334	A	3216	24	609	GIPQTQREPTMVLSPADKTNVKAAWGK VGAHAGVEYGAEALERMFLSFPTTKTYF PHFDLSHGFCPLRATGKKVADALINA VAHVDDMPNALSALASDLHAHKLVRGP GSTFKLLSHLPCW*TLGRPPSPAEFQPLA VARLPWEKFPGLFVEAPLLDLQITFKVG SFGWPLFFCFPGPPSPSSPFLHPYPRGL

2284	10335	A	3217	3	583	EPRLRKAGGLLSRSRQNDQEGREGAQQ WPAYGPARGVVPQPVVQTGTWQGNTG QRVPQLPPHPPPIHLVSRHRGKLRHGFLR PMPEPRGLESKGT/GQCSGSCSMYVTMR AKRPWEGGHDTLTQQGGCRSSVCGRRA HEALRPRVWCGEGPQWTWCAVCPNRS APGAGLAD/RQHPGESRAWGETRLGEAG GAE
2285	10336	A	3218	3	398	
2286	10337	A	3219	1766	3896	NTKLDQAQQAPEDHYPISLLPSHMAIG LLMAQEGHCKDSSAMGEEAHHPLTPAT PPFPPLSPDWGHMQPDDFFVPVAVPAVFR GPPQLQCHGRRFLNNSPCAQKSSSGLVV EPGLSRTLLEMVKLTSMRGQFLEAQIPT GISLTLQYQLYQKQTNKNMSYSFVFLK WVALGQRRRAGYPSLEDADSRFRNGSR SFLITVIGITLTVEIVTSGMMKGTRVRWS GAGNEGMMGLEEGRNERSVKEAPPRRA VEAQPKDRTWDVGKGQGTGEGRGLEV EGQQHQGSEPGTIPFSVSWGVLLAGLC CLVPSSLVEDPQEDAAQKTDTSHHQDQ DWEDLACQKISYNVTDLAFDLYK\SWLI YHNQ\HVLVTPTSVAMAFAMLSLGTKA DTRTEILEGLNVNLTETPEAKIHECFQOV LQALSRPDTRLQLTTGSSLFVNKSMKLV DTFLEDTKKLYHSEASSINFRDTEEAKEQ INNYVEKRTGRKVVDLVKHLKKDTSLA LVDYISFHGKWKDKFAERIMVEGFHV DDKTIIRVPMINHLGRFDIHRDRELSSWV LAQHYVGNATAFFILPDPKMWQLEEK LTYSHLENIQRAFDIRSINLHFPKLSISGT YKLRVPRNLGITKIFSNEADLSGVSQEA PLKLSKAVHVAVLTIDEKGTEATGAPHL EEKAWSKYQTMFNRPFVVIKEYITNFP LFIGKVVNPTQK
2287	10338	A	322	2	373	PRVRVRVDLVSGWGGKMVDLFVLVTV KRVIDYAVKILVKPDWTGVVSDGVKHS LNPFCDIADVAVLLEKELVKEGIAVC CGPAQCQETNRTALGMGAHRGIHVEVS P**AQRCLPQVARG
2288	10339	A	3220	3	1226	MRRNKPRQRGVREARPAGGAGPGWRG ARCSGAGEGGGGERRGSPPAALALAPAS GPRRNFPDARCLYQIHHQGAFLLAGSA SLSAVTGVPEGEARFTEDYCPEEKMGF HKPKMYRSIEGCISGAKSSSRFTDSKR YEKIDFQSCFGLHETRSGDINCACVLLV KRWKKLPAGSKKNWNHVV DARAGPS LKTTFEPKVKVTLGWNRIKSTQISKLOK EFKRSNSDAHSTTSASPAQSPCYSNQS DDGSDTEMASGSNRTPVFSFLDLTYWK RQKICCGIYKGRFGEVLIDTHLFKPCS NKKAAAEKPEEQGPEPLPISTQEWTECP DLSLVVSWRPPLSSLPAGCSLHGLAADW TTDMITVTTSKREPSCQEGSFQRRKA FPKRLPKMAEVQVLLL
2289	10340	A	3221	1	269	
2290	10341	A	3222	240	377	SNTHRVPFTDAWEVEMVTSLSLQSFL LPHIHCLKLQ*DPLHSP
2291	10342	A	3223	47	263	
2292	10343	A	3224	416	498	KRLSLQSFLLLPHIHCLKLQ*DPLHSP
2293	10344	A	3225	1	305	RTRGRTRGGDGGGHLGSGRNGGSMN APPAFESFLPLRG/QRRITINKDTKVPNAC LFTMNKEDHTLGNIIKSRACFPFAFCRD CQFPEASATLPVQPAEL

2294	10345	A	3226	74	562	GSGGGGGHLSGRNGGSMNAPPAFE SFLLEGEKK/ISDAGCGGPRITINKDTKV PNACFLTINKEDHTLGNIIKSQRDLKDPO ALFAGYKVPHPLEHKIIIRVQTTDPDYSQ VRAFTNRQSPDLVSELSLLGGSFRGGHK KTSQERNLSRGARGGLCSGL
2295	10346	A	3229	1	2661	
2296	10347	C	323	303	395	
2297	10348	A	3230	1	1454	
2298	10349	A	3231	1	2364	
2299	10350	A	3232	1	1368	
2300	10351	A	3233	114	1473	VKGDRFGALRFNDPCAGIKLPMTFFTEL EKTTLKFIWNQKRARIAKSILSQKNKAG GSTLPDFKLYYKATVTKTAWYQYQNR DIDQWNRTPSEITPHTYNYLIFDKPEKN KQWGNDSLFNKWCWENWLAICRKLKL DPFLTPYTRINSRWIKDLNVRPKTIKLE ENLGITQDIGMGKDFMSKTPKAMATKD KIDKWDLIKLSFCTAKETTIRVNRQPTK WEKIFATYSSDKGLISRIYNELKQIYKKK TNNPIKKWAKDMNRHFSKEDIYAAKRH MKKCSSSLAIREMQIKTTMRYHLPVVRM AIKKSGNNRCWRGCGEIGTLLHCWWD WKLVPPLWKSVMRFLRDLELEIPFDPAL PLLGIYPNDYKSCCYKDTCTRMFIVALFT IAKTWNQPKCPTMIDWIKKMWHIYTME YYAAIKNDEFM/SFVGTWMKLEIILSKL LQEQKTK
2301	10352	B	3234	1	1890	MDKFLDTYTLPRLNQEEVESLNRPIGTSE IVAIINSLPTKKSPGPDGFTAIFYQRYKEE LVPFLKLFQSIKEGILPNSFYEASILIP KPGRDTTKIENFRPISLMNIDAKILNKILA NRIQQHIKKLIHHDQVGFTPGMQGWFNI CKSINIQHNRKDKNHMIIISIDAEKAFD KIQQHFMKLTNLKLGIDGTYLKMIRTIY DKPTANIILNGQKLEAFPLKTGTROGCPL SPLLFNIVMELLARAIRQEKEIKGIQLGKE EVKLSLFADDMIRIKYLGILIRDMKDLE KENYKPLLNEIKEDTNKWKNIPCSWVGR INIVKMAILPKVIYRFNAIPKLPMTFFTE LEKTTLNFIWNQKRARTAKSILSQKNKA RGIMLPDFKLYYKATVTKTAWCWYQNR DIDQWNRTEPSEITPHIYNYLIFDKPDKN KQWGKDSL FNKWCWENWLAICRKLKL HPFLTPYTTINSRWIKDLNVRPKTIKLEE NLGNTIQDIGMGKDFMSKTPKAMATKA KIDKWDLIKLSFCTAKETTISVNRQPTK WEKIFATYSSDTGLISRIYNELKQIYKKK TNNPINKWAKDMNRHFSKEDIYAAQKH MKNAAHHWPSEKCKSKHNEIPSHTS*

2302	10353	A	3235	1	2676	MKAEIKMFFEINENKDTTYQNLWDAFK AVCRGKFIALNAHNRKQERPKIDTLTSQ LKELEKQEOTHKASRRQEMTKIRAEK EIEIQKTLQKINESRSWFFERINKIDRPLA RLIKKKREKNQIDAINKDKGDIITDPTEI QTTIREYYKHLYANKLENLEEMDKFLDT YTLPRLNQEEVESLNRPIITGPEIVAHNSLP TKRSPGPDGFTAIFYQRYKEELVPFLK LFQSIEKEGILPNSFYEAIIIPKPGRD TKKENFRPISLMNIDAKILNKILANRIQQHI KKLIHHDQVGFIPGMQGWFNIRKSINV QHINRTKHKNHMIIISIDAFAFKIQQPF MLKTLNKLSDGTYLKIRATYDKPTANII LNGQNLEAFPLKTGTQGHPLSPLFNIV LEVLARAIQKEKEKAQNLLKLISNFRKV SVYKINVQKSQAFLYTNNRQTESQIMRE LPFTIASKRIKYLGIQLTRDVKDLFKENY KPLLNEIKEDTNKWNIPCSWIGRINIVK MAILPKVIYRFNAIPIKLPTTFFTELEKTIL KFIWNQKRAHIAKTILSQKNKAGGIMLP DFKLYYKATVTKTAWYQYQKRDIDQW NRJELSEIIPHIYNHLFDKPKDNKKWGK DSVFNKRCWENWLAICRKLKLDFTLTPY TKINSRWIKDLHVRPKAIKTLEENLGITQ DIGMGKDFTSKTPKAMATKAKIDKWDLI KLKSFCTAKETTIRVNRQPTKWEKIFAIY SSDKGLISRIYKELKQIYKKKTNNPIKKW AKDMNRHFSKEDIYAANRHMKKCSSSL AIREMQIKTTMRYHLTPVRKAIKKSGNN RCWRGCGEIGTLLHCWWDCKLVPVW KTVWQFLRDLEIIPFYPAIPLGIYPKD Y
2303	10354	A	3236	1	3045	MDKFLNTYTLPRLKQEEVESLNRPIITGS DIEAIINSLPTKKASPGPDGFTAFCQRYK EE/LEKEGILPNSFYEAIIIPKASDITK KENFRPISLMNINAKILNKILAKQIRQHIK KLIHHDQVGFIPGMHGLFNICKSVNIIQHI NRTNDKNHMIISIDAFAFKIQQHFML KTLNKLAKNLLKLIGNFSKVSQYKINVQ KSQAFLYTNNRQTESQIMNEFPFTIASKR IKYLGILTRDVKDLFKENYK
2304	10355	A	3237	1	2142	
2305	10356	A	3238	1	1551	MRFKEKIHLENIKEPSEAAADGGAVAS YPLAKIVDEGRYKAEVMQLRCGWRAP ASDCVHSVAVVGVDVSVLEVLARAIQ KEIKGIQLGKEEVKLSLFADDIMIVYLENP TVSAQNLLKLISNFSRVSGYKINVQKSQ AFLYTNNKQTESQIMSELPFTIASKTIKYL GIQLTRDVKDLFKENYKPLLNKIKEDTN KWKNIPCSWIGRINIVKMAILPKVIYRFN AJHIKLPMTFFTELEKTTLKFIWNQKGVH IAKSILSKKNKAGGIMLPFKLYYKATV TKTAWYQYQNRYTQCNRTPESEIIPHI YNHLMFDKPKDNKKWGKDSLKNWCW ENWLAICRKLKLDPFLLTPYTKINSRWIKD LNVVRPKPIKTLEENLGITQDIGMGKDFM SKTPKAIATKAKIDKWDLIKLSFCTAKE TTIGVNRQPTTELEKIFAIYSSDKGLISRIY KELKQIYKKNNPIKKWVKDMNRHFSK EDIYAVNRHMKKCSSSLVIREMQIKTTM RYYLTPV

2306	10357	A	3239	1	1458	GLSGDLLGAHQPLDVLGCVQPLDLLLP PQNLLALQSLQDDLLWALDPAAAAPWA MDRGAATQWAVGPVVS DPWVMEAVAS LPSAMDLDSAAQPTWLLGAASLLVTDQ PMDQPSADQLAEFPDLLSKVSQSLRIKY LGIKLTRNVKDLFKENYKPLLNEIKEDTN KWKNIPCSWVGRINIVKMAILPKVIYRFN AIPKLPMTFFTELENTTLKFIWNQKRACI AKSILSQKNKAGSIMLPDFKLYHKATVT KTAWYQYQNRDIDQWNGTEPSEIMSHIY NYLIFDKPEKNKQRGKDSLFSKWCWEN WLAICRKLKLDPFLTPYTKINSRWIKDLN VRPKIHTLEENLVNTIQDIGMGKDFMSK TPKAMATKAKIDKWDLIKQKSFCTAKET TIRVNRQPTWEKIFAIYSSDKGLISRIYK ELQQIYRKKTNNPIKKWAKDMNRHFSK EDIYAANRHMKKCSSSLAIREMQIKTTM RYHLTPV
2307	10358	A	324	268	393	DGRRKEKWHKVERRHRPYLLSSLSQHR W*TVTNFGEISGTIAIEVDEGTIHALNN GLFTLGAPHK/ERIALKPGYGKYLNSND ELVV/GRSDAIGPREQWEPVFQNEVRN GGPAEMGEEKRNGTKWRETDHTSFPL FPSTGGQPKAHSNWRKVCH
2308	10359	A	3240	1	2028	
2309	10360	A	3241	2	1547	
2310	10361	A	3242	3	1945	
2311	10362	A	3243	1	2124	
2312	10363	A	3244	1	2250	
2313	10364	A	3245	2	2483	GKYYKLSSGTAPTCVSLGWGLARGDSA APALGSRTSACAPCSHGTWKLSPSDR LSPCDRSSEEAHTHAPHRLALVASLPW SRLPLLAPQSHSEAEATSQPTGVENHHQ KTRYVKAGGPVICRSLPESRGFLWASEG RKCMILIGSWAAMGRLRKSTISSRFGPQT LAGTGRPQAIPLVKKHSDAVLLGVCFLK LLHQHHQELGENADSQTLPTQTHWEFILS EDYNKMTVPKNYQVLEVLARAMRQEK QIKSIQLGKEEVKLSVFADDMIVYLENPI VSAQNLLKLISNFSKVSQYKINVOQSQA FLYTNNRQTESQIISELPFTIPSKRIKYLGI QLTRDVKDLFKENYKPLLNEIKEDTNKW KNIPCSWVGRINIMKMAILPRVIYIFNAIS IKLPMTFFTELEKTLKFIWNQKRARIAK TILSQKNKAGGITLPDFKLYYKATVTKT AWYWYQNRGVDQWNRIEPIPHIHNH LIFDKPDKNKKWGKDSLFTKWCWENW LAICRKLKLDPFLTPYTKINSTWIKDLNV RPKTIKTLEENLGITIQDIGMGKDFMSKT PKAMATKAKIDKWDLIKLSFCTAKETT IRVNRQPTWEKIFTIYPSDKGLIPRIYKE LKQIYKKKSNNPIKKWAKDINRHFSKED IYAANRHMKKCSSSLVIREMQNKITIR/Y HLTPVRMAIHKSGNNRDMDEAGNHHS EQTIARTENQAPYLLTHR WELNNENTWT QVEEHHTLGPIVGVICRKVFPGNSGPSKP SGLHFSQPLPQVTSVVAKITIVPWEMKLI AMGVQDELNIAFHKNHLLMNDTTIHMT PYIQPAPKS
2314	10365	A	3246	1	2622	



2315	10366	A	3247	853	2831	YPESTMNSNKFTRKKQTPPSKSG*RI*TD TSQKKTQMOPKDT*KNAQHHSLEKCK SKPQ*DTISHQLEWRSLSQDRKD*QSTL LAILIKKKGQKNQIDT/IKNDKEGITTDP EIQTIREYYKHLTYTNKVENLEEMDKFL DTYTLPTLKQKKEVKTLNRPITGSEIEAI NSLPT/KKSPGPDRTAEFYR/DIRSSGQG NQARERNKGYSIRKRGSIQVPVCR*HHC FRKPHHLSPKSS*ADKQLQSSLRIQNSA KITSIPHQ*QTNREPNE*TPHNCFKEN KMPRNPTYKGCEGSLQGELOTTAQ*NK RGHKRMEEHSMMLDRKNQYRENGHTA QGNL*IQCHPHQATNDFHRIKKNYFKV HMEPKKSPHRQVNPKEQSWRHHTT* LQTLQGYSNQNSMVLVPKQRHRPMEQ NRAPGNNTIHLQLSDL*QI*QKQEMGKG FPI**MVLGKLANHM*KAETGSLPHILYK N*FKMD*RLKC*T*NHKNPRRKPRQYHS GHRHGQGLHD*NTKSNGNKSQN*QMG N*TKELLHSTRNYHQSEQATYRMGENFC NLLI*QRANIQNLQRT*TNLQDKNKQPH QKVGKGYEQTLKRRHLCSQKTHEKML IITGHQRNANQNHNIPSHTS*NGDH/SN QVRKQOVLERMWRN
2316	10367	A	3248	1	4954	MVFSIDAQKAFDKIQHRFMLKTLNKLGI DGTYLKIIIRAIYNKPTGNIILNGQKLEAF LKTGTROGCPLSPLFNIVLEVLAIRQ EKEIKGIQLGKEEVKLSLFADDIIVYLENP IVSAQNLLKLIGNFSKVSQYKINVQKSQA FLYTNNRQTESQIMSELPFTIASKRIKYL GIQLTRDVKNLFKENYKPLLNEIKEDTD KWKNIPCS WIGRIHV KMATLPKVIYRLH AIHIKLPMTFFTELEKTTLKFIW
2317	10368	A	3249	25	527	EFHRLRENPPMVAVSCPTKTNVKAWWG KVGAAHAVRSMCAEALERMFLSFPTTKT YFPFDLASHGSAQVKGATGKKVADAL TNAVANVDDMPNVAVRPEATLHAHKL RVDPVNFKLLKPLACLVDPGPAHLPRP SFTPGGATSSLGQSFLGFLKHRCLNLPN YR
2318	10369	A	325	1	67	
2319	10370	A	3250	97	1360	SACAWRLPSPGPSAMWPLWRLVSLAL SQALPFEQRGFWDFTLDDGPFFMMNDEE ASGADTSGVLHPDSVTPTNYSAMCPFGC HCHLRVVQ/CSDLGLKSVPKEISPDITLL DLQNNDISELKDDFKGLQHLIALVLV NNKISKIHEKAFSPLRKLQKLYISKNLV EIPPNLPSSLVELRIHDNRIRKVPKGVFS GLRNMNCIEMGGNPLENSGFEPGAFDG LKLNYLRISAEKLTGIPKDLPETLNELHL DHNKIQAJELEDLLRYSKLYRLGLGHNQ IRMIENGSLSFLPTLREVHLADNNKLAR VPSGFPDLKLLQVV/YILHSNNIHQSGVF NEFLFPWGFGEAGPYYNH/ISLFNNPV PYWEVQPATFR/VVTDRLAIQFGQLQKV EAAAATLVSQWGS LGNRARHPDGEAEP GS
2320	10371	A	3251	1	2535	

2321	10372	A	3252	5	2333	NPILWLETQMASNERDAISWYQKKIGAY DQQIWESQIEQTQIKGLKNPKKMGHIK PDLIDVDLIRGSTFAKAKPEIPWTSLTRK GLVRVVFPLFSNWWIQVTSRIFVWLL LLYFMQVIAIVLYLMMPIVNISEVLGPLC LMLLMGTVHCQIVSTQITRPSGNNGNRR RRKLRTVNGDGSRENGNNSDKVRGIE TLESVPIIGGFWETIFGNRIKRVKLISNKG TETDNDPSCVHPIIKRRQCRPEIRMCQTR EKPKFSDGEKCRREAFRRLNGVSDDLLS SEEDGEARTQMILLRRSVEGASSDNGCE VKNRKSILSRHLNSQVKKTTTRWCHIVR DSDSLAESEFESAAFSQSGRSVSGGSRS LNMSRRDSESTRHDSETEMDLWDDLLH GPECRSSVTSDEGAHVNTLHSGTKRDP KEDVFQQNHLFWLQNSSPSSDRVSAIW EGNECKKMDMSVLEISGIIMSRVNAYQQ GVGYQMLGNVVTIGLAFFFLHRLFREK SLDQLKSISAEIILTLFCGAPPVTPIIVLSI INFFERLCLTWMFFMMCVAAERTYKQR FLFAKLFSHIYFCQKGLGKYEIPHRLKK VENIKIWLRLSYLKRGPQRSVDVVVS SVFLLTLIAFICCAQVLQGHKTSWVND YNNWGVFDLGETALLFLRLASLGSETN KKYSNVSILLTEQINLYLMEKKPNKKE QLTLVNNVLKLSKLLKELDTFRLYGL TMNPLIYNITRVVILSAVSGVISDLLGFNI RLWKIKS
2322	10373	B	3253	73	358	XVPGSRGPETKLWDDFSMSQATKRKHV VKEVLGEHIVPSDQQQIVRLRTPGNL HEVETAQQQRFLVSMPSKYRKNWIKRG DFLIVDPIEEGEK*
2323	10374	A	3254	80	201	
2324	10375	A	3255	498	748	FLPRRGDNDSTYPQ/WTACACRRRRTCW* T*TWIRSGQRKMWSCGRRSLTTCMP RTRTAARLMACGSGSWRRSGPCGCR LSP
2325	10376	A	3256	1	1764	MTTSQKHRDFVAEPMGEKPVGSLAGIGE VLGKKLEERGFDKAYVVLGQFLVLKLD EDLFREWLKDTCGANAKQSRDCFGCLR E/WCAKSRPAAEVSELKADSKEGPQAQG PEQERTGL
2326	10377	A	3257	842	1186	FLPRRGDNDSTYPQ/WTACACRRRRTCW* T*TWIRSGQRKMWSCGRRSLTTCMP RTRAUTTWRSKNLALSCPSMTKSLKGS GHIPSAWSRAARLMACGSGSWRRSGPS CGCRLSP
2327	10378	A	3258	526	1158	SCGLSLIKMTTSQKHRDFVAEPMGEKPV GSLAGIGEVLGKKLEERGFDKGL/YVVL GQFLADIEKMKTSFREWLKDTCGANAK QSRDCFRMPFEKWCEALLVDALLGKFSI PPAPQSRSLASRSRDSSPCPSYEGKDICY CARTHLARRYFRGSFGEFSPLNHFQFFGI LRSWHAFFRPFPWPVSWVTVYQLFLE WDFPGPIPHPHFQSV
2328	10379	A	3259	35	407	
2329	10380	A	326	163	552	AGFSLSAQKSPGAMA*YSYVKSSKLVLK GT/SKKKKSKDKKRRKREDEETQLD/IVGI W*TVTNFGEISGTIAIGMDEGTIHALDN GLFTLGAPHK/ERIALKSGYGKYLGINSD ELVGHSDAIGPREQWEH
2330	10381	A	3260	3859	4052	ASCPNPKEFAPPRAGPPFWGPPPLARVN PGLGGPFSGTRTPPQPLPEQRVTLTSTN PWLAASV
2331	10382	A	3261	493	712	AHGRQLRKYSQQQGCWSRLPFCGCHAV SGGGCGKCCSPANGPCGAAICLGFQPH NFPDPCETC/CGCHAVSGGGCGKCCISSK WSLWCSPAUVSSHTTSRIPVKLAGLPSP SFLPG

2332	10383	A	3262	51	539	
2333	10384	A	3263	742	4858	
2334	10385	A	3264	2	658	AFLRMLFPESWMETRREGAPAPPAPRSET SHDLVATLMRCTPHYIR*SNPTRPRGPET GRRTA*TRSPQVPHLQHLPPTPRLVTPHP EGTQPTLPTRSSTRWNTWA*RTSGCES RLRLPPPVRQJPAEYAILTPETWPRWRGD EPRASSTCFGRSTWSPTRPDGEHQGLCQ EPRVAFPPGGGAKRKFDGFARTIQKAWR RTWLSGSTRRCGRKLPTSC
2335	10386	A	3265	1	4095	
2336	10387	A	3266	26	173	
2337	10388	A	3267	387	1443	PHRKQAEPPRHHERLGRRVRHHARHGR GSRPDTAAEAAGGCGDPRAQQLERRL RHPPLRWQGLLRQRLREPPRRSLLRP HRADAVQ*PGLPPDALPREAGWRQEGA PQHRRLODYETCQLTWPH**GAHPTTS AALNPTRPRGPETGRRTESSTRWNTWA* RTSGCAEPASPTA/SQFAKFLQRYAILTP ETWPRWRGDERHGVQHLRAVNMEPD QYQMGSTKVFKNP/VVAFPPGGGARA KVRWLCPNHPEGLAAPRGCEVRGDA/R RKLPTSC*TRRSGGATASIGTSSGTTWG WRSGPSCVSSWARRSGWTSPIRSPSTTA ASSPSSGT*S*RPSVCM*LGERR
2338	10389	A	3268	1	4496	MEGNVNAHRASGAQIRTCRAPPATGC TALFKANSPEFTGLKSAQRGRGPVVGAP RKRFSGLRGHREARRTLGWGSQAPPA AQAHTPAAGDSTLLRSAPVGTCLLYAP HPQDFPPAGFLREQWWPRLTLQVFLHL RTGGRVGPVDWVLLGGGRLLGHRMP GPCNLAEAVLLREARWPWGEAGGSEEG EPSSGSGVGGNCQARPLPSAHPEAQQGV GLEVGRGMVAPAASYFADEGRPNGDHP ARQPRLG
2339	10390	A	3269	911	2827	ERKHLGWMEFSIKQSPLSVQSVVKCIKM KQAPEILGSANGKTPSCEVNRECSVFLS KAQLSSSLQEGVMQKFNHGDALFPFIPAD KLKDLTSRVFNGEPGAHDALRFEQ MKGIGTPPNTTPIKNGSPEIKLKITYM NGKPLFESSICGDSAADVSQSEENGQKPE NKARNRKRKSIKYDSLLEQGLVEAALVS KISSPSDKKIPAKKESCPNTGRDKDHLK YNVGDLVWSKVSGYPWWPCMVSAADPL LHSYTKLKGQKKSARQYHVQFFGDAPE RAWIFEKSLVAFEGEGQFEKLCQESAKQ APTKAEKIKLLKPISGKLRAQWEMGIVQ AEEAASMSVEERKAKFTFLYVGDQLHL NPQVAKEAGIAAESLGEMAESSGVSEEA AENPKSVREECIPMKRRRRRAKLCSSAET LESHPDIGKSTPQKTAEDP/RRRGVGS PGRKKTIVSMPSRKGDAAASQFLVFCQ KHRDEVVAEHPDASGEEIEELLRSQWSL LSEKQRARYNTKFALVAPVQAEEDSGN VNGKKRNHTKRIQDPSENAIDLETPRK GLRTDKHSLRKRDTITDKTARTSSYKAM EAASSLKSAATKNLSACKPLKKRNR ASTAASSALGFSKSSSPASLTENEVK
2340	10391	A	327	289	818	EPSRGVWPHEDARINGSKKKSKDKKR KREEDDEETQFD/IVGIW*TVTNFDEISGTI AIEMDEGTIHALDNLFTLGAPHK/ERI ALKPGYGKYLINSDELVV/GRSDAIGPR EQWEPVFQNGACAAVFTVIGSEKQSECS LLRESRAKYHGCTHGQISSSLKQHPRWM YSHQEDLKV
2341	10392	A	3270	3	114	
2342	10393	A	3271	328	471	
2343	10394	A	3272	1	190	

2344	10395	A	3273	2	479	SGLGRLPGPWQEAGSSRGPSSGDMAGV KALVALSFSGAIGLTF/LHMLGCALEDYG VYWPLFVLFFHAISPIPHIAKRVTYDSD ATSSACRELAYFFTTGIVVSCLWISPVIL ARVALIKIWGACAFVLAGNAVIFPYN RGFSLYLGRGDDFSWAEQW
2345	10396	A	3274	3	586	ARAMGISRDNLHKRRKTGGKRKPYHKK RKYELGRPAANTKIGPRRIHTVRVRGGN KKYRALRLDVGNFWSGSECCTRKTRIIDI VYNASNELVVRTKTLVKNCIVLIDSTPY RQ/WTPEEEILNKKRSKKIQKKYDERKK NAKISSLLEEQQQKLLACIASRPGQCG RADGYVLEGELEFYLRKIKARKGK
2346	10397	A	3275	2	727	LFPASAEQMGISRDNWHKPRKTGGPRE SPYQOEAKSMSLGRPAANTKILAPRRIQ HSPVCRGG*QVNTVPLRFDVGNFSWG/S KECCTRKTRUIDVVYNAI**PSWVRYPRP LVERICNVLIDEQHPYRQWVRSPTYALP LGPQRKGAKLDSLREEIFPKPTDLK*IQ KKYD*/ERKKNCQNSASLGRSSFQQK ASLRCAFK/RPGQCGRADGYMTRGHR VRSYYLRKIKARQSKINT
2347	10398	B	3276	48	209	XKNQCETRTMQENGYSSHAVDGTGPAG GAGRPAGSTGAQVSVQPNFQQDKFLGR X*
2348	10399	A	3277	2	353	
2349	10400	A	3278	3	676	SAVEFPPSLSHTTGTRPRTPIILLQENG FIHTLWMGLALLGVLGDLGQHRPRSP CQPNFQQDKFLGRWFKRGLASNSSWL EKKAALSMCKSVVAPATDGGVNLSTF LQEKTSVETRMLALQPRGVPSASLQLTG VPHWGQA/HYSVSVVETDYDQYALLYT RASKGPGEDFRMATLYSRTQTPRAELK EKFTAFCKAQGFTEDTIVFLPQTDKCM EQ
2350	10401	A	3279	154	522	HVACGLLWYVSPSAHLNLDGTITTK/EN LGTVNEILLGSNPTEAELQDMINEVMSD NGTIDFPEFLTMMARKMKVDTDSEGR KLAEAFRVFGLRVGNGLYLACRNFRH VDGQTLGGGSLPD
2351	10402	A	328	213	905	YVQSLKQILS/GCI*ESIAIKKKKNKDKR KREDEETQLDIVGIWWTVTNFGESGTI AIEMDKGTIHALDNGLFTLGAPHKEVD EGPSPPEQFTA/VKLSDSRIALKSGYGKY LGINSDDL VVGRSDAIGPREQWEPVFK MGKMALSTSNSCFIRNHEAEDIEAKSKT AGEEEMI/KGSPNLCQFTFMTLPYLPEH RSLLLKIRSCAERETKKKDDIPEEDKGN KQCE
2352	10403	A	3280	1	1446	
2353	10404	A	3281	774	3564	VLSKGNERSQPRSLRLLAPQLKAEAAA DKGLAPVPPPFSSGHSGPCERELEGQRG RGRSRRGAHLELKPSPGLRAGAPTDRGR GGPAEVAAAAGGRMVQKESQATLEERE SELSSNPAASAGASLEPPAAPAGEDNPA GAGGAAVAGAAGGARRFLCGVVEEQL MTLISAAREYEIEFIYAI SPGLDITFSNPKE VSTLKRKLDQVSQFGCRSFALLFDDIDH NMCAADKEVFSSFAHAQVSITNEIYQYL G
2354	10405	A	3282	51	672	VLSKGNERSQPRSLRLLAPQLKAEAAA DKGLAPVPPPFSSGHSGPCERELEGQRG RGRSRRGAHLELKPSPGLRAGAPTDRGR GGPAEVAAAAGGRMVQKESQATLEERE SELSSNPAASAGASLEPPAAPAGEDNPA GAGGAAVAGAAGGARRFLCGVVEEQL MTLISAAREYEIEFIYAI SPGLDITFSNPKE VSTLKRKLDQ

2355	10406	B	3283	506	2416	MNPSAPSYPMASLYVGDLPDVTEAML YEKFSAPGPILSIRVCRDMITRSLGYAY VNFQQPADAERALDTMNFVVIKGPVRI MWSQRPDLRKSXGNGNIFKNLDSIDN KALYDTFSAFNGILSCKVVCDENGSKGY GFVHFETQEAARAIEKMNGMLLNDK VFVGRFKSRKEREAEAGARAKEFTNVYI KNFGEDMDDERLKDLPFGKFGPALSVKV MTDESGKSKGFGFVSFERHEDAQKAVD EMNGKELNGKQIYVGRAQKKVERQTEL KRKFEQMKQDRITRYQGVNLYVKNLDD GIDDERLRKEFSFGTITSKVMMEGGR SKGFGFVCFSSPEEATKAVTEMNGRIVA TKPLYVALAQRKEERQAHLTNQYMQR MASVRAVPNPVINPYQPAPPSGYFMAAI PQTQNRAAYYPPSQIAQLRPSFRWTAQG ARPHFPQNMPGAIRPAAPRPPFSTMRPAS SQVPRVMSTQRVANTSTQTMGPRPAAA AAAATPAVRTVPQYKYAAGVRNPQQHL NAQPQVTMQQPAVHVQGGQPLTASMLA SAPPQEQKQMLGERLFLIQAMHPTLAG KITGMLEIDNSELHMLSPESLRSKVD EAVAVLQAHQAKEAAQAVNSATGVPT V*
2356	10407	A	3284	183	3080	PRRCSTGNSGRPKIIRRAEAENEDRTL RLLPNGERSQPRSLRLAPQLKAEAAV DKGLARVPPFSSGHSGPCEREGERQGR RGRSRGAHLELKPFSGLRAGAPTRD RGGPAEVAAGGRRMVQKESQATLEER ESELSSNPAASAGASLEPPAAPAGEDNP AGAGGAAGAAGGARRFLCGVVEGF YGRPWWMEQRKELFRRLQKWELNTYLY APKDDYKHRMFWRMYSVEAEQLMT LISA
2357	10408	A	3285	3	452	
2358	10409	A	3286	26	526	NSTDSETHPWLLSPADKTTVK/APAWG KVGAGHAGEYGSEALERMFLSFPTTKTY FPHFDLSHGFCPLRATGKKVADALTKR RGAPLDDMPNALVRPLSDLHAHLRV GPGSTFKLLKPLACLTLGPAHLRPSFT PGGCKASLGQSFLGFLKHRCLNLPNYR
2359	10410	C	3287	410	484	
2360	10411	A	3288	3	170	IRGSVVLNLFLLNTFFTP*RSFISTSVMF* KPFIFSFLMLLL*VFIFSLKILSY
2361	10412	A	3289	831	1559	IAWAFKINWLPILFLIFSFLFYPIFGFIFFYL LYFSNTCLSLFFHFLSETLDNIFIFLYSIF QFSSKFVHFAISFMFPLSFFFCILSRKF IFFSSKKYVFIFLISLSFIFF
2362	10413	A	329	133	480	GYGRRSVKVRWARCTGFSPKTPNPVW NSQHFGRLRWADHLRSGVRDQPGQHGE TLSELLKIQKLPGCCGRCL*FQLFGRLRQE N*IRLNPGGGGCSELRSHHCTPAWVTEQ DSVSK
2363	10414	A	3290	253	414	
2364	10415	A	3291	3	225	
2365	10416	A	3292	218	602	SFLLLPRCTAEKQRWGHQQLYWSHPW KFGQGSRSICRVCSNNRHGLIRKYGLN MCRQCFRQYAKDIRFHLSTKCSSFRGL SGASTSMKKPWINSFVYIIHFEKATEKK RKKNEIKRGPFCKGPL
2366	10417	A	3293	33	494	
2367	10418	A	3294	1	609	PLKRSDDGNDGRPTRPPTRPDTTVFTSNL KQTRMVHLTPEEKSAVTALWGKVVNDE VGGEALGRLLVVYPWTQRFESFGDLST PDAVMGNPKVKAHSKKGLRGAFTDGL AHLADNLKGTATLSELAHCDKAAPWIPE ELQAPWATCLVCVAWPITFGKRISTPPV AGLPNQENWLAWCWLNALGPTSNHLSL

						AFLAGPISN
2368	10419	A	3295	8	519	SAQMAVTTADPRVRPRVRTQLCSLASLI QTLLVHLTPEEKSAVTALWGKVNVD VGGKALGRLLVVYPWTQRFLAESFGDLS TPDAVMGNPKVKAHSKKVLGVAFSGGP GCTWDNLKGTFAHTEVSLHCDKILHRGS LKNFRLLGQRAWVSVAGPIHFWQKNFN PTSCRLA
2369	10420	A	3296	3	333	
2370	10421	A	3297	35	717	RRSSPSLLPLAERGGARARGRPERAPHPS TPATRTAPPWARRMMKLKSNQTRTYD GDGYKKRAACLCFRSESEEEVLLVS R/HPDRWIVPWKEGMEARRKEAKCGKQ VREVCERLGVKGTGLGRLVGIFENQER KHRTYVAVVLIVTEVLEDWEDSVNIGR KREWFKIEDAIKVLQYHKPVQASYFETL RQGYSANNGTPVVAATTYSVSGFRASMF RAFRWT
2371	10422	A	3298	81	426	PSFHYAVLPLHNCLGFFPSLRHRWLHSM TDDPPTTKPLTARKFIWTHNKFNVGTGPQ NNMYLILPLERRFRSGSHLQHLTSKDNE EQLKHAKYGAFHVITLLLFTIHYNSQLKL CD
2372	10423	A	3299	180	484	RQQAIFWHRWLHSM TDDPPTTKPLTAR KFIWTHNKFNVGTGPQNNMYLILPLERRF RSGSHLQHLTSKDNEEQLKHAKYGAFH VITLLLFTIHYNSQLKLCD
2373	10424	A	33	200	559	KNFFFLEMEF/SVLLPRLECNGVISAHR LRLPLSSYPASSSQVAGDYRACTTTAG* ILYF**ETGFLHVGQAGLEFP TSGDQPAL ASQSAGITGVSHCPQLKKSILHETPKGLT GVTS
2374	10425	A	330	27	201	LQE*SRRPSRSEAADLHGECYSS*GSTSG VVCSSRWARGLAGLRSEAADLRSEYSS
2375	10426	A	3300	591	942	MAKTHFWDVDGSMVPPPEWHRWLHSM TDDPPTTKPLTARKFIWDGTIKFQRGLG HPRNNMYLILPLERRFRSGSHLQHLTSK DNEEQLKHAKYGAFHVITLLLFTIHYNS QLKLCD
2376	10427	A	3301	1	508	NFALEAKNSARAISYVQTPMGHFTRGG PRLTITSLWGKVNVEDAGGETPGKGS VVYPWTQRFFDSFGNLSSAFCSWPTP KVKAHGKVKVLTSLGDAHKSTWDDLKG HLLPKPEVNCTVDKPAWDPENFKAPG EMLLVTRFGQSLFRQKNFTPEGCRASLG KKDG
2377	10428	A	3302	3	452	
2378	10429	A	3303	1	627	TLLVPQDSERTHPWLLSPADKIVNKA WGKVGAAVSRMCAEALERMFLSFPTT KTYFPHFDLSHGISAQVKGATGKKVAD ALTKRRGAPLDDMPNAL/SSALEATLHA HKLVRVPGSTSKLLKPLACLVDPGPAHL PRPSSTPGGCNVFPGTKFPLFVEAPLLE PSKLPLKLSRLAIVFLPLWGFPAPPPL SCTRTPVVFEIKS
2379	10430	A	3304	131	406	EAMGILKLQVFLIVLSVALNHLKATPIES HQVEKRKCNATCATQRLANFLVHSSN NLGGILSSTNVGSNTYGKRNAVEVLKRE PLNYLPL

2380	10431	A	3305	154	1702	IGHRDPARGRSCRCSGYYSRMVCEKLAP QSEMASAGVSLRATILCLLAWAGLAAG DRVYIHPFHLVIHNESTCEQLAEANAGK PKDPTFIPAPIAKTSPVDEKALQDQLVL VAAKLDTEKLRAMVGMLANFLGFP YYMGMHSELWGVVHGATVLSPTAVF GTLASLYLGALDHTADRLQAILGVPWK DKNCTSRDLAHKVL SALQAVTGLLVAP GRADKQAQLLALSTVVGFTAPGLHLK QPFVQGLALYTPVVLPRSLDFTELDVA ETIDRLMQAVTGWKTGCSLTGAKADST LAFNTYVHFQGMKGFSLLAEPQEFWV DNSTSVSPMLSGVMGTQHWSDIQDNF SVTQVPFTDASALLLIQPHYASDLADKVE GLTFQQMSFNWMRKLFPRTHLTMPQL VLQGSYDLQDLRPGSSCPFLHTELNL GRISGNDRIRVGEVLN SIFFE LEADEREP TESTQQLNKPEVLEIVPLTRPFLFAVYD QGATALALSWGRVGKPA
2381	10432	C	3306	223	417	
2382	10433	A	3307	3	742	HEASCRSERRRQMAFDITYDDRAYSSF GGGRSGRGSAGGHGSRSQKELPTEPPYT AYVGNLPFNTVQGDIDAIKDL SIRSVR LVRDKD TDKFKGFCYVEFDEVDSLKEA LTYD GALLGDRSLARVDIAEGRKQDKGG FGFRKGGPDDRIGFRDDFLGGRG/GLSR PGDRRTGPPMGSRF RDGPPLRG SNMDF REPTTEERAQR TTPALKPRTVATPLNQ VANPNSSVFGGARPREEVVQKEQE
2383	10434	A	3308	1	861	
2384	10435	A	3309	1	2076	
2385	10436	B	331	396	809	MAGCRSRALPHGEAAKAQRKVTAAGP GAKHLTAWG WQQLATPSVGPAEPHT QNSHWPASAVCSPSSRLRLSLHTYPQAE GAGSGLGQPRKGLPQCSSRLKGSSSAK VGAQAEVPRASEACEGCQHAVTSHKY *
2386	10437	A	3310	34	657	SDGRCGRCCAPRAPRAMHMSFAIS/RCA FYQLLLAALMLVAMLQLLYLSLLSGLH GQEEQDQYFEFFPPSPRVDQVKAHVRT ALASGGVLDVSGD\YRVYRGLLKTMD PNDVILATHASVEQTC LHLISGLLERW EGPAVPCSVFAAITKEEAQLATVLAYAL SSHCPDMPARVAMHLVCPSTRYEAAPVD PREPGEFALLRSCQEVFDKLARVAQPGI NYALGTNVSYPNLLRLNLA REGANYAL VIDVDMVPTEGLWRGLREMLDQSNQW GGTALVVP AFEIRRARRMPMNKNEVLQ LYQVGEVRPFYGLCTPCQAPTNYSRW FNLPEESLLRPAYVVPWQDPWEPFYVAG GKVPNFRRSGFRQYGFNRISQACELHVG GDFEVLNEGFLVHKGFKEALKFHPQK EAENQHNKILYRQFKQELKAKYPNSPR RRAQLATV LAYALSSHCPDMPARGHA PRVPLALRGSRARPPGAGGVCPAAVLPG GL
2387	10438	A	3311	160	441	
2388	10439	A	3312	107	691	RTAILSRMKIFLPVLLAALLGVERASSL MCFSCLNQKSNLYCLKPTICSDQDNYC VTVSASAGIGNLVTFGWSLSKTCFPCL APPPEGRSMLGVASMGHSAFCQSFLVAI FSCGPMAGLRGKRSPLL GARACCLSLAG RALLRFGPLDRPEPCSPDPPAQEGKPSFF WIPQCMGAPDSSRALICALGPRSG
2389	10440	A	3313	388	525	

2390	10441	A	3314	194	1131	PQHGGHFPRKIKSCSWQARPLEDEATLG QCGVEALTTLEVTRPACLEVKSMVPWP VLEKVRGQTPKVAKHGEKKKKKTGRAK RRMQYNRRFVNVPVTFGKKKGTTFTKIF VGGLPYHTTDASLRKYFEGFGDIEEAVVI TDRQTGKSRGYGFVTMADRAAAERACK DPNPIIDGRKANVNLAYLGAKPWCLQTG FAIGVQQLHPTLIQRTYGLTPNYMYPPAI VQATVVIPAAPVPSLSSPYIEYTPASPAY AQYPPATYDQYPPYAAASPATVRSFVGYS YPAAVPQALSAAAPAGTTFLOQYQAPHV QPDRMH
2391	10442	A	3315	1	407	DAERQEALGIVRRIGTDTEAATEPAGAT VPAAAAAARIGTVGPQPAMPRRKRNA GSSSDGTEDSDFSTDLEHTDSSSEDGTSR RSARVTRSSARLSQSSSRISRSCSKSGSLL ALRSLLTLPEE*PVVSSSLPQ
2392	10443	B	3316	78	316	XSYLLGQWPRDADGAFTCCTNDKATQT PLSWQELEGERASSCAHKRSASWGSTD HRKEISKLKQQLQRTKLSRSGKEKERX*
2393	10444	A	3317	1	2319	GHPAFLEDGSPSPVLAFAASPRPNHSYIF KREPPEGCEKVRVFEEATTRGKYGEGAK QETFTFALTIVFIQCVINAVFAKILIQFFD TARVDRTSRWLYAACSISYLGAMVSSNS ALQFVNYPTQVLGKSCCKPIPVMLLGVTL LKKKYPLAKYLCVLLIVAGVALFMYKP KKVVGIEHTVGYGELLLLLSLTLDGLT GVSQDHMRHAHYQTGSNHMMLNINLWS TLLGMAVSCPDQGPPELVPRCPFVQALE KPS
2394	10445	A	3318	845	1343	LSLGDSAQCLLPHASWCQVAGHPAFLE DGSPSPVLAFAASPRPNHSYIFKREPPEG CEKVRVFEEATS/RRVLTGPFLTSCPDKN KVHFQPTGSAFCPVNLMKPLFPGMGFIF RNCPSNPGISSSPGQPQATTSEGSGLQG LPTAIRAMAVAPHLQMSLCFSRAP
2395	10446	A	3319	44	498	
2396	10447	A	332	130	249	
2397	10448	A	3320	1	164	
2398	10449	A	3321	2	438	ARAARVFLHRSSLNLSNGETESVKTIV HDDVESEPAMTPSKEGTLIVRQTQSASST LQKHKSSSFTPFIDPRLLQISPSGTTVTS VVGFSDDGMRPEAIRQDPTRKGSVNV NPTNIRQSDPPEIRKSGKG*L*ILGAGLW
2399	10450	A	3322	3	174	
2400	10451	A	3323	2	4978	RRTSAVSRGLLFMSFVQPLLQPPVHLLT ARVRVPGYLQIDGVKIKEHNGKLMNCF KTKMTYYSFMKCVGLPAQLTIGFSGPSR ETGSDPRAARRGEDPQSKDRGDGLSEQT EAQRSGVHCPRSQLVGELAGQSPRTIPA ALRVCLYLLCITSYNHTSKDESSKDEEEE IKLEINMLKKYSHHRNIATYYGAFIKKSP PGHDDQLWLVMEFCGAGSITDLVKNTK GNTLKEDWIAYSISREILRGLAHLHHVI HR
2401	10452	A	3324	197	332	
2402	10453	A	3325	1	1788	
2403	10454	A	3326	3	111	
2404	10455	A	3327	220	423	HEELKSGPYLLTFRDCFLHFWALVSKR /LALNFM*TSAPT*KALSKRNICLVNKNR NIKIPYPKKKKK
2405	10456	A	3328	273	499	RSQVRDQPGQHGKITSLLKIQKLARRGG ACL*SQLLRRLRQENRLNPGGGGCSEPR SCHCTPAWETEQDSISKIK
2406	10457	A	3329	1	1176	
2407	10458	A	333	1	3408	



2408	10459	A	3330	245	394	
2409	10460	A	3331	458	701	GPAPTRRGPAHPGAHTR**PAGTARAAC GSA*SAGTASPAHKGKGHHPGSRASGTG PGPCQRRRRSDHSSAGKWPLREASL
2410	10461	A	3332	365	814	AALRSSENSSRHRSLVKMSDKKAKDPV NKSGGQGPKRKNWSKGSSGTSFNNL VLFDKATYDKLCKEVPNYNLIITPAVGSE RLKIRGSLGQGKPFQELLSKGFIPNWFS KHRASSYFTPGITKGGADAPSLLEDGMN RSNPPVHLEK
2411	10462	A	3333	41	565	APSPRRPWGHFTEED\KATIKNLWGKGE MWKDAGGKNPWRLPWLSYPMGPQRF FDQLLANLSLCPIMGNPPKVKGTPWR KVLTSLS\SAHKSTWDDLKGHLLPKPEV NLHC\DKPAMWDPENFKAPGEMLLVTR FGQSHFRQKNFTPGGCRASWGRKMGDL ELASALVPSRYH
2412	10463	A	3334	399	592	KCIHFPGPPTKFCVGVIVVTAVP/TFGM* TVYV**LPFSILAQNVG*RDDCDPGWKL NLFYAKKKK
2413	10464	A	3335	28	312	
2414	10465	A	3336	26	417	
2415	10466	A	3337	16	3567	
2416	10467	A	3338	6385	6599	
2417	10468	A	3339	2	758	
2418	10469	A	334	3	443	SFQGGLEGEAWAGTGAAPGACGPAPVP GRRRLRGPRTRPAGPTGPGQ*G/VLAPGP AAAVL/RFLTGP*LPSRSRARDREGLQLH S*SQRDHEPTGRN/GTTPDAPP*EL*HSPR RSAASLCPQAPEVSPQGSQVPALSGNSP QRLLLPT
2419	10470	A	3340	116	627	
2420	10471	A	3341	1830	2259	
2421	10472	A	3342	1	619	
2422	10473	A	3343	1830	2258	
2423	10474	A	3344	290	1377	RSFRAIGEVGSIRGWGGGYAAQLQSPSR LPVLGGGKKGGSRGVGQGSRAEVGLG SQRERSGTCGAEAAAAAQLIAGTGSSL PYQGPQGNQTAIAPTAPLSPCKAAAVI MGNIFGNLLKSLIGKKEMRILMVGLDAA GKTILYKLLKGEIVTTIPTIGFNVETVEY KNISFTVWCGGVARDK\IRPLAWRH\YFQ NTQGF\DLWSDSN\DRVNEA\REELA MKNAGAETSLRDAVLLVFGQTNRICPN AMNAAGVQDKLGLHSLRHRNWI\QAT CATRGN\GLYEGHLWLANSVPKQEVESR TALTKHSTSPLTYLLSPCPQLPLLSMOG LARA\WGIMSTLPSRTLPLTSLPFCPI
2424	10475	A	3345	292	574	VTTENSGGQTQCGKQDRIQVPRHPARRG PPGSQY/PVTPPVPPGPLHATQLPPGPIPL GKRKAGQERRLDPRPTTCQAAAPTRSSP FCPPQKVWR
2425	10476	A	3346	3	142	TISSIIRKARKPQDLLNNYTPRSSPLRSSG RTRMYKKGKNVRPGNSS

2426	10477	A	3347	1	1418	MAAALFVLLGFALLGTHGASGAGEERA RKQPCGKSRFQGHSEALATRFSAAGNTG FVQAPLSQQRWVGGSVELHCEAVGSPV PEIQWWFEGQGPNDTCSQLWDGARLDR VHIHATYHQHAASTISIDTLVEEDTGTYE CRASNDPDRNHLTRAPRVKVVRAQAV VLVLEPGTVFTTVEDLGSKILLTCSLND ATEVTGHRWLKGGVVLKEDALPGQKTE FKVDSDDQWGEYSCVFLPEPMGTANIQL HGPPKVKAVKSSSEHINEGETAMLVCKS ESVPPVTDWAWYKITDSEDKALMNGSE SRFFVSSSQGRSELHIENLNMEADPGQY RCNGTSSKGSQAIITLRVRSHLAALWPF LGIVAEVLVLVTIIFIYEKRRKPEDVLDAL RRCTWPGLMSCPEPLGVTEGRAGSTDA PARGLSGASADRLSSRPLFHGGGPPSSDD DAGSAPLKSSGQHQNCKGKNVRQRNSS
2427	10478	A	3348	3	896	SCRGRRRQRLEVVRGFRRGIGIMAAALF VLLGFALLGTHGASGAAGTVFTTVEDL GSKILLTCSLNDSEATEVTGHRWLKGGV VLKEDALPGQKTEFKVDSDDQWGEYS CVFLPEPMGTANIQLHGPPRVKAVKISS EHINEGETAMLVCKSEFVPPVTDWAW YKITDSEDKALMNGSESRFFVNSSQGR SELHIENLNMEADPGQVRCNGTSSKGL RPRPLQFLRVRSHLAALWPF LGIVGEVL VLVTIIFIYEKRRKPEDVLDLDDAGSAPL KSSGQHQNCKGKNVRQRNSS
2428	10479	A	3349	870	997	KWASNTYVISSNEESMIS*LSGRQ*NLRV WRLRKTWWLNWTL
2429	10480	A	335	2	306	
2430	10481	A	3350	2	225	GILKGLYYPLATNSFPATCWRL*VSPAHS KDPRNAATVHLSFFSPSGGPRYLLGHTT WQQGLGKRGRRTEQHS
2431	10482	A	3351	1	336	
2432	10483	A	3352	1193	2524	SKPPAASFAPRRPPATSRTLSAACAFRSR CRLAACSFVRPLPHTDTNMNGQLNGFH EAFIEEGTFLFTSES VGEHPDKICDQIS DAVLDAHLQDDPAKVACETVAKTGMI LLAGEITSRAAVDYQKVVRVAVKHIGYD DSSKGFYDKTCNVLVALEQQSPDIAQGV HLDRNEEDIGAGDQGLMFGYATDETEE CMPLTIVLAHKLNAKLAELRRNGTLPWL RPDSKTQVTVMQDRGAVLPIRVHTIV ISVQHDEEVCLDEMRDALKEKVIKAVVP AKYLDVVTIYHLQPSGRFVIGGPQGDAG LTGRKIIVDYGGWGAHGGGAFSGKDY TKVDRSAAYAARWVAKSLVKGGLCRR VLVQVSYAIGVSHPLSISIFHYGTSRKSE RELLEIVKKNFDLRPGVIVRDLDLKKPIY ORTAAYGHFGRDSFPWEVPPKCLKY
2433	10484	A	3353	346	461	

2434	10485	A	3354	3	1632	MTEQLEPILMQAFIKSTAGLEARKLKAY RTMEYMAKSTDRSPGHILCCECGVPISP NPNANICVACLRSKEDISQGIKQVVISFCK QCQRYFQPPGTWQCALESRGTFLLWCL EKNPKPLWSKVRLVDAGFVWTEPHFK RLKVKLTIQKEVMNGAILQQVFVVDYV VQSQMCGDGHSEKLLKDFWKAIVIQVR QKTLHKTFYYLEQLILKYGMHQNTRLRI KEIHDGLDFYSSKQHAQKMVEFLQCT VPCRYKASQRLISQDIHSNTYNYKSTFSV EIVPICKDNVCLSPKLAQSLGNMNIQIC VCIRVTSAILHIDPNTLQVADIDGSTFW HPFNSLCHPKQLEEFIVMECSIVQDIKRA AGAGMISKKHTLGAEVWGTEGHELMNY RIKQYFCRTVHLGTSCLNPGDRVLGFDL ANVCNLNDEHVNMNSDRVPDVVLIKKS YDRTRKQRRRNWKLKELARERENMDT DDERQYQDFLEDLEDEAIRKNVNIYRD SAIPVESDDEGAPRISLAEMLEDLHFS PGCPLVKEGASMLT
2435	10486	A	3358	231	877	PKPGGYSQCRRTSSRATERNRIDYVSSA VPYLTTPDLPRPEVVFVIGRNSVVGKSSL IKALFSLAPEVEVRVSKPGHTKKMNFF KVGKHFTVVDMPGYGFRAPEDFVDMVE TYLKERRNLKRTFLLVDSVVGQKTDNI AIEMCEEALPYVIVLTKIDKSSGHLK QVLHIQKFVNMTQGCFFQFPVSAVTF SGIHLRRCFIASVTGSLD
2436	10487	A	3359	3	234	
2437	10488	A	336	243	748	PCQSFQPSGFGKDRPTSLEQRSQRERQA AIFAVSQPSLVIPPGTGKSEVNADRSP AYCSNLGRYSGPGPSLVIPPGTGKSEVN ADRSQPPAYCSNHFPALP**RSSMRSL LQQTSAWTCRHFHTSFEIQ/RGGSQILTL AFCAPAGPTPRGSHVLGLAPSEALT
2438	10489	A	3360	25	546	QSGDLGGRLSRSENCSSQVRVHRVGA VMAGVLKKTGVLVGLAIVCNTPHERLR ILYTKILDLVLEIPKINAAIRKYTEQITN EKLAMVKAEPDVKKLEQLQGGQLAEE VILAQAIEHNLAKKK*GEWKLWEPLIV E/EPPADQWKWANIIKLTLLVFMGKLD VIKIFCYI
2439	10490	A	3361	2	367	YAGFSLSAQKCPGAMAE*SYAKSTKLVL KGTKTKSKKKKSKEKKRKREDEETQF D/IVGTIAIEMDEGTIHALDNLFTLGAP HKEGKMALLASNGCFIRCNEAGDIEAK SKTAGEEEMIT
2440	10491	A	3362	268	393	DGRRKEKWHKVERRHRPYLLSSLSQHR W*TVTNFGEISGTIAIEVDEGTIHALNN GLFTLGAPHK/ERIALKPGYGKYLINS ELVV/GRSDAIGPREQWEPVFQNEVRN GGPAEMGEEKRNGTKWREDTHTSFPL FPSTGGQPKAHSNWRKVCH
2441	10492	A	3363	6	223	TVTNFGEISGTIAIEMDEGTIHALDNL FTLGAPHK/ERIALKSGYGKYLINSDEL VGHSDAIGPREQWEH
2442	10493	A	3364	329	877	RPWKQDRRAGDPWPRTHEFRSSEASLQ ASACKKKKSKEKKRKREDEETQFDMF GIW*TVTNFDEISGTIAIEMDEGTIHALD NGLFTLGSSTQRRIALKSGYGKYLINS ELVV/GRSDAIGPREQWEPVFQNGACAA VFTVIGSEKQSECSLLRESRAKYHGCTH GQISSSLKQHPRWY

2443	10494	A	3365	97	704	AGFSLSAQKCPGAMAE*SYAKSTKLVLK GTKTKSKKKSKSEKKRREDEETQFD/ VGIW*TVTNFDEISGTIAIEMDEGTIHAL DDGLFTLGAPHKEGKMALLASNGCFIR CNEAGDIEAKSKTAGEEEMIKIRSCAERE TKKKDDFLEEDKGNVKQCEINYVKKFQ SFQEHKLKISKEDSKILKKAQKDGFLHET LLDR
2444	10495	A	3366	24	981	AIQRLGEDGGGFYRDVGCQGVFISRP FLRAPVLPRLTYSSRTGLSLSAQKLP MAEYSYVKSTKLVLKGTGKTKSKKKKSK DKKRKREDEETQLDIVGIWWTVTNFGE ISGTIAIEMDKGTIHALDNGLFTLGAP HKEISDEGSPPEQFTAIVKLSDSRIALKS GYGKYLGIIRDGLVVGWSDAUGPREQW EPVFKMGKMASTNSCFIRNHEAEDIE AKSKTAGEEEMIKIRSCAERETKKKDDIP EEDKGNVKNCEINYVKKFQSFQDHKLKI SKEDSKILKARKDGLHETLALDRRAK LEADRYCK
2445	10496	A	3367	1	555	PLKRSDDGNDGRPTRPPTRPDTTVFTSNL KQTRMVHLTPEEKSAVTALWGKVNVD EVGGKALGRLLVVPWWTQRFESFGD LSTPDAVMGNPKVKAHGGKVLGAFS GGPGCTWDNLKGTFAHTEVSLHCDKLH RGSLLKNFRLGNVLGLCLLAHSLGKEF QPHQLQAOLIKKIGWLGVG
2446	10497	A	3368	1	390	WEEIQELNEVARHRPRSTLVMGIQENR QIRELQENKELRTSLEEHQSALELIMSK YREQMFRLLMASKKDDPGHMKLKEQHS KELQAHVDQITEMAAVMRKPLKLTNR VARNKNEYFNLNKKTKA
2447	10498	A	3369	769	912	FPTPIPLFQELQAHVDQITEMAAVMRK LKLTSNRVARNKNEYFNLK
2448	10499	A	337	514	967	APACCPAAVSPFLCEPTLIHPPHPPDLKE DTGQKHGAQSHPTLAGAGLAGRSSKQ PSPSAISWHSDDTSSCDRRQQCDRLPS ALLSPHLRCSQPATRQLESS*TPPGTADL FLASSGPNPRAFSNARSVRKCKATSEKS KPKSYQGS
2449	10500	A	3370	1	463	MKKNIAFLASMFVFSIATNAYADIQMT QSPSSLASVGDRTITCRSSQSLVHGIG NTYLHWYQQKPGKAPKLLIYKVSNRFS GVPSRFSGSGSGTDFLTISGLQPEDFAT YYCQHYDSLPTFTGQGTLEUKRTVAA PSVFIFPAHLMSS
2450	10501	A	3371	2	166	
2451	10502	A	3372	39	1200	FCGVAAMQLEIQVALNFIISYLYNKLPRR RVNIFGEELERLLKKKYEGHWYPEKPY KSGSFR/CIHIGEKVDPVIEQASKESGLDI DDVRGNLPQDLESFRIDPFEVSYQIGEK GPVKVLYVDDNNENGCELDKEIKNSFN PEA/QVFMPISDPASSVSSSPSPFGHSAVA VSPTFMPRSTQPLTFTTATFAATKFGST KMKNSG/RGSSRFARTSPINLRGGMWN DLLEGRKAISSMHSYGLGLG/SQQQP QQQQQPAQPPPPPPPPQQQQQKTSALS PNAKEFIFPNMQGQGSSTNGMFP/GDSP LNLSP/LQYSNAFDVFA/TYGLNEKSFV DGLNFS/LNNMQYSNQFQPCYGLTKKK KMYRTKLKCTGPRGIFFSPP
2452	10503	A	3373	1	1197	
2453	10504	A	3374	66	632	RRDPRTPANMALRVVRSVRALLCTLRA VPLPAAPCPPRPWQLGVGAVRTLRTGP ALLSVRKFTKEQESGNNQEKSMNLGGS GNFAQEAALGDVVYCSLPEVGTGLNKQ DEFGALESVKAASELYSPLASGEVTEINE ALAEENPGTCKTNFCYEDGWLIKMTLSN PSELWELMSEEAYEKYIKSIEE

2454	10505	A	3375	162	552	VASEHSPKIGASQGLDYEPLLVAKVWY LTPRTGTGKAGSVFSQYLPFLPGLGPAS LPWLRQTLTGKEIEIDIEPTDKVERIKER VEEKEGIPPPQQORLHLQVAKQMNDK TASWITKILRWVQSQT
2455	10506	A	3376	77	427	GRDKEGEYPPAPSSGWGKSVGIMLTELE KALNSIIDVYHKYSLIKGNFHAVYRDD KKLLETECPQYIRKKGADVWFKELDINT DGAVNFQEFLLVIKMGWQPTKKAMKK ATKSS
2456	10507	A	3377	1	143	
2457	10508	A	3378	200	899	GKSTGPVCVHMSLCEWTLSLATRVSLSS HPSHQSHSHLLVWLFGESRPGGLRLGH ESSAYCPGQMQUIPCHGIPQKVLFFRWGK SVGIMLTELEKALNSIIDVYHKYSLIKGN FHAVYRDDKKLLETECPQYIRVRRGLG WRGLSAWSWGCPGPAVLPAHLRWLCL GSL*DL*TLASSSILTKKGADVWFKE DINTDGAVNFQEFLLVIKMGWQPTKKA MKKATKSS
2458	10509	A	3379	99	497	RESGGKRLNIYHQTIVYHKYSLIKGNFH AVYRDDKKLLETECPQYIRKKGADV WFKELDINTDGAVNFQEFLLVIKMGW QPTKKAMKESHKGVSLSLGPKGWAL GGHVTCRIKVINTEKSKKKKVDA
2459	10510	B	338	1	456	MKLRTLAVSATALKVARLEFVPFDVRM CSEFLSSGVKLQTFVSVTALNALRLELF VPPGGLMVSLASGVKLQIFTVSVTAHKS SVDPKTLGWSMGLGAVEQGAALIGEAW AAQEPMEGVGGSGMAGCRSRALPRGKA AKARREIERSAGH*
2460	10511	A	3380	1	282	PLKRSDGCGNDGRPTRPPTDPTVFTSNL KQTRMVHLTPEEKSAVTALWGKVNVD EVGGKALGRLLVVLPLGPPKGLKSFG GICPNSLNG
2461	10512	A	3381	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFFDSFGNLSSASAIMGN PKVKAHGKKVLTSLGDAIKHLLDLKGT AQLSELHCDKLHVDPENFKLLGNVLTV LAIHFGKEFTPEVQASWQKMVTGVASA LSSRYH
2462	10513	A	3382	3	549	FCPRGQEFEGGNKLLVPDAMGHFTEED KATITSLWGKVNVEDAGGETLGRLL VVYPWTQRFFDSFGNLSSASAIMGNP KVKAHGKKVLTFLGRCQSTLDDLKGH LLPKPEVNCTVDKPAWDPENFKAPGE MLLVTRFGQSHFRQKNSPPGGCKASWA ERWVTGVASALVPSRYH
2463	10514	A	3383	347	716	REPCVSRSTCCPLPWMEPRAMCPPVGA MRGSRDPASSSLSPDHLAQLQPGAGFL FCSAPALSGFPFRPSPQGHLAGSWL/ CPPVQAQPAALCPGRRGVAVWGIAW EDSGKSVGEVAS
2464	10515	A	3384	1	1362	
2465	10516	A	3385	284	540	KLFQKKNKKSSCISDNFFFLAIMVNLLQ IVRDHWVHVLVPMGFVIGCYLDRKSD ERLTAFRNKSMFLKSFPHRELQPSEVT WK
2466	10517	A	3386	194	353	
2467	10518	A	3387	57	880	DPHSVSSTGGPLPIWFWPLSSGPGAVAA DPAPQSGPTVDAGVPIPHIRARDSARLP LCPWHASALELGIATPGTVTTQAPGSYP AWRSRCLLPQSPVLLASLGVGLVTLG LAVGSYLVRRSRRPQVTLDPSEKYLRL LLDKTVSWGRKGQEGGDQSAPGM*GT APTUVGMSKGRGSARAW*NTCVLHPP TVSHNTRKFRFALPTAHTLGLPVGKES VEWAPFGYPQKVTPLLGSHETRCFNR APHTISPSPTWLCILQAVRCHWA

2468	10519	A	3388	430	483	NQPCLTLPTRKSECTDTVISWSLSFGFLF TRWVTGMAVLLRLSLRQAEYTHSQQLL PLDT*RLGNVVKFRGPGSGLLSYTGKGFH NIQPNKKSPPPEPRVAKKLGMIAGGTGITP MLQLIRAILKVPEDPTQCFLLFATQTEKD IILREDLEELQARYPNRFLWFTLDHPPK GILPISGHPTIPSSSKSKPCPFVNSGFIEINL ASHCQLGSLSAQTQ
2469	10520	A	3389	3	1007	HACAHASAHASGRLVVRWGRKRRSVMGI QTSFVLLASLGVGLVTLLGLAAGSYLVR RSRRPQVTLDPNEKYLLRLLNKTTVSH NTKRFRFALPTAHHTLGLPVGKHLYLST RIDGRVRVKPYTPVTSDEDDQGYVDLVIK VYLKGVQPKFSEGKMSQYLDLKVVG DVIVEFRGPSGLLYTGKGFHNIQPNKK SPPEPRVAKKLGMIAGGTGITPMLQLIR AILKVPEDPTQCFLLFANQTEKDIFAGG LKRNLQARYPNRFLWFTLDHPPKDW YSKGFVTADMIREHLPAPGDDVLVLLCG PPPMVQLACHPNLQGTGVT SQKMAISP Y
2470	10521	A	339	1	1519	MAPELSSKEQPGSEWKKACQMEGTVCA KAQRDLLDGFQDQADDDMDNEIQAE VSDGDEELVGNWSKEPTTLGAATMGLG TEKQLGMGWAGRKGPIEDLEPLQAAC KLHAVAHTTWEEAVQCGSLPRRNSNLL LEQGVLEETRNLQEHGGEIDLEKKRWL GTVAHTCNASTLGGRGVKLQFTVTSITA PKAARLELFVPPGGLVLLASGVKLQIF AVSVTAHKSSVDPKTLGWSMGLGAVEQ EVVLVGEAPAAQEPMEWVGSGMGAA GPGALPRGKAAKARREIEHSAGLYKLLP HSEYSRPNRVFNSQGSNPVRVSFVNLN DQSGNGDRLCFNVGRELYFYIYKGVK TIP*GICRTEILISVLTEAADLSKPIDKRIY KGTQPTCHDFNHLTATAESVLLVGFSA GQVQLIDPIKKETSKLFNEEAFEGRYATF FTI/WYECSHGKLHISSALGLVFFGGDISY SLSSQPAPLEGASRDSGSRGHELWSESSR KRNNKRH
2471	10522	A	3390	2568	2781	RSPGRPPHPPNAPV/RRPASCHS/AAESQ HGGWKKSKISASRKLQKTLTLLQIAKQE/ LEREAEEERRGEKGRAL
2472	10523	A	3391	2	409	
2473	10524	A	3392	3	490	SSPEETVGPWDPEGHPGGPLTDPNAPV LALPPAIPGLSLIMADGSSDAVRAAG*GV AGTPRARAREPRPAPAPIRRRSSNYRAY ATEPHAKKSKISASRKLQKTLTLLQIAK QELEREAEEERRGEKGRALSTRCQPLELA GLGFAELQDLCRQLHARVDK
2474	10525	A	3393	2023	2613	
2475	10526	A	3394	150	848	VSAWRNGSSDAAREPRPAPAPIRRRSSN YRAYATEPHAKKSKISASRKLQKTLTLL LQIAKQELEREAEEERRGREGARSLAPRC QPLELAGLGFADLPGLCCRQFHARVD KVDEERYDIEAKVSKNITEIANLTQKIF DLRSKFKRPTLRRVRISADAMMALLG ARAKESLDLRAHLKQVKEDPEKENRE VGDWRKNIDALSGMEGRMKKWRELSLP AYCPCPEEGH
2476	10527	A	3395	1	2880	

2477	10528	B	3396	61	5070	MGPTSGPSLLLLLTHLPLALGSPMYSIT PNILRLESEETMVLEAHDAGDVPVTVT VHDFPGKKLVLSSEKTVLTPATNHMGN VTFTIPANREFKSEKGRNKFVTVQATFG TQVVEKVVLVLSQSGYLFQTDKTIYTPG STVLYRIFTVNHKLLPVGRTVMVNIENPE GIPVKQDSLSSQNQLGVLPLSWDIPELVN MGQWKIRAYYENSPQQVFSTEFVKEY VLPSFEVIVEPTEKFYIYNEKGLEVTI
2478	10529	A	3397	3	560	EGKGQGTLSVVTMYHAKAKDQLTCKNF DLCLPGSRQKYEVLGPCLQPGTFLWSR NRRVLGFPMSNGEDMGLFLCSEWERSS EGWLCNREGSGSHSIEPHCCTFLHLTHR SLAFSLLAGVSCTCASSCKCKECKCTSC KKSECGAISRNGLWLKVGREP KAVPEV RASGEPAFLCPCRLSLPV
2479	10530	A	3398	3	1584	SNQPLRREAFPETPKGLRQGIPGEPENG RSHFFSFDVTAVMILYKESQALTGNLPG PQLPRRLRAAGRGHPSVPAPSRRGALS RFPASGRSAVPTIGWLCRSHYPHSIRGAN GWDRLQELVRASHTMSATAQTNHRAEK AGRELSQANNDRTGRLAHPAPPSQARQ VPRLEHLASPRCRWPAVISRPFPSWHCIL EIRFRKGKLGGRASPENEGAGEIRVKVP KDRDWLTAKLQGDLLTVSQTAKLED MV LQTAKSTQDFLTPTARSYSPTTKLKGV NTKSPTLLTPTARGHYLLGAPIASWRC HTSTIRYHTVVVMSMTLTESEHQAGSVD MSANDYAHYSGASGDNEMCVVIACPTP LFLSPRAWKPCDAGSKVKNWGIENG NL VHTVLSSTQHGDPHEVHAPFGMEAEYA HPLETLILGTGFFIGIVLLCDHVILLWAW VTIRLLETIDVHSGYDIPLNPLNIPFYAG SRHHDFFHMMNFIGNYGFQHFTRWDW NFLGTDSDQYNAYNEKRKKFEKTE
2480	10531	A	3399	2	873	GRVGEMSQGRKYDFYIGLGLAMSSSIF IGGSFILKKGGLRLARKGSMRAGQGGH AYLKEWLWRAGLLSMGAGEVANFAAY AVAPATLVTPLGALSVLVRAILSSYFLNE RLNLHGKIGCLLSILGSVMVIHAPKEEEI ETLNEMSHKLGDPGFVVFATLVVIVALIL IFVVGPRHQTNILVYITICSVIGAFSVSC VKGLGIAIKELFAGKPVLAGIPWAWILL LIVCVSTQINYLNRAPWDIFNTSIVTIYY VFFTTSVLTCSAILFKGVGKDMPVGRCP LVL
2481	10532	A	34	2583	3580	DRVSLLLPRLECNGAILAHCNLCLSGSSD SPASASQVTGITGKCHHTQLIFVFLVEMG FHHIAQAGLELLTSDSPTLASQSAGITGV NHHAWLFFFCR/RTVSLCYPGWSRVA* SRITATSA/PGLK*FACFSLPSSRDYRHVP PHPGNFCIFGRDEVSPCWPGWF*TPDLR/ YPPASASQSAEIIIGVSHHTWPQEVFLFN LFIYLRWSL/DSVAQARVQRRDLGSLQA PPPRFKPFSCLSLPSSWDYRRPPHPANFF VFLVETGFATVLARRVLIS*PRDLPASASQ SAGITGVSHHTR/LIF/NFFETGTHSVTWA AVQWYTI/GSLQPRTPELK*SSHLILTSN WDYRCTPPCPPNLFIYLFYFHRDEGSLC CPGWS*TPELK
2482	10533	A	340	759	1034	
2483	10534	A	3400	90	458	HFSRGYLEAFSEISNIRFVPPHSVTVVVV FGACFLCILGIWPWACLPGPGGEGSGGF GEGRGSEAGRLGSVELTPATLPLQAPEA YPVFEPVPPVPEAAQGDTEDEGAPPLK RICPNAPDP

2484	10535	A	3401	3	787	PGSTISWRPGLARSLSPDGRPRRGLGP GPSPASMAGRTVRAETRSRAKDDIKKV MATIEKVRRWEKRWVTVAATPFRLNW VAIVVDPQEEERRRAGGGAERSRGRER RGRGASPDGGG/PLFILLDLNDENSQR FPLRKGSQLRGTETSPGGTPKPNRPCVT LPDPPEGGPCTRAQPPT/RLGQEERSPGGI TVAGSTDEPPMLTKEEPVPELLEAEPEA VPVFEPVPPVPEAAQGDTEDFGSAPPLK RICPNAPDP
2485	10536	A	3402	1	172	
2486	10537	B	3403	1	5501	MVSKLSQLQTELLAALLESGLSKEALIQ ALGEPGPYLLAGEGPLDKGESCGGGRGE LAELPNGLGETRGSEDETDGDEDFTPI LKELENLSPEEAAHQKAVVETLLQEDPW RVAKMVKSYLQQHNPQREVVDTTGLN QSHLSQHLNKGTPMKTQKRAALYTWYV RKQREVAQQFTHAGQGGLIEPTGDELP TKKGRRNRFKWGPASQQILFQAYERQK NPSKEEREAAQGLGSNLVTEVRVYNWFA NRRKEEAFRHKLAMDTYSGPPGPGPGP ALPAHSSPGLPPPALSPSKVHGVRYGQP ATSETAEVPSSSGGPLVTVSTPLHQVSPT GLEPSHLLSTEAKLVSAAGGPLPPVSTL TALHSLEQTSPGLNQPPQNLIMASLPGV MTIGPGEASLGPTFTNTGASTLVIGLAS TQAQSVPVINSMGSSLTTLQPVQFSQPLH PSYQQPLMPPVQSHVTQNPFMATMAQL QSPHALYSHKPEVAQYTHGTGLLPQTMLI TDTTNLSALASLTPTKQVFTSDTEASSES GLHTPASQATTLHVPSQDPAGIQLQPA HRLSASPTVSSSSLVLYQSSDSSNGQSHL LPSNHSVIETFIQTMASSSQ*
2487	10538	A	3404	158	755	RGGRPAWPCGSRAMVSKLSQLQTELLA ALLESGLSKEALIQALGEPGPYLLAGEGP LDKGESCGGRGELAELPNGLGETRGSE DETDGDEDFTPIILKELENLSPEEAAHQ KAVVETLLQEDPW RVAKMVKSYLQQH NIPQREVVDTTGLNQSHLSQH/HQQGHS HEDAEAGRPVHLVRPQAARGGAHVHPC RAGRAD
2488	10539	B	3405	133	2369	MVSKLSQLQTELLAALLESGLSKEALIQ ALGEPGPYLLAGEGPLDKGESCGGGRGE LAELPNGLGETRGSEDETDGDEDFTPI LKELENLSPEEAAHQKAVVETLLQEDPW RVAKMVKSYLQQHNPQREVVDTTGLN QSHLSQHLNKGTPMKTQKRAALYTWYV RKQREVAQQFTHAGQGGLIEPTGDELP TKKGRRNRFKWGPASQQILFQAYERQK NPSKEERETLVEECNRAECIORGVSPSQA QGLGSNLVTEVRVYNWFANRRKEEAFR HKLAMDTKVHGVRYGQPATSETAEVPS SSGGPLVTVSTPLHQVSPTGLEPSHLLS TEAKLVSAAGGPLPPVSTLTALHSLEQTS PGLNQPPQNLIMASLPGVMTIGPGEAS LGPTFTNTGASTLVIVPTLDQSLCYISDT WVNQTDQNLSSSREAGTKHNTSILWY LRRPGLHAGTECAGHQHQHQQPDHLQP VQFSQPLHPSYQQPLMPPVQSHVTQSPF MATMAQLQSPHX*



2489	10540	A	3406	1	2112	MMLKGKAHCSILDFGLDLQCSTNSAAE FIRSWEDPWVAKMVKSYLQQHNPQR EVVDTTGLNQSHLSQHLNKGTPMKSQK RAALYTWYVRKQREVAQPHIPYPIPENS TGTEWLIETWLDPTHAKNDQEHRTDSP VNYGKKKGKENKNLKPPEVYVSLIKA CGGPGNFCPSFSELQRNFVKHRPTKLKS LLRLVKHWYQQWLQPHREWKEEVLD VRTVEEFLRQEHFQGGKRGDLQDVRVLK VVKVGSFGNGTVLRSTREVELVAFLSF HSFQEAACHHKDVLRLIWKTMWQSQD LLDLGLEDLRMEQRPDALVFTIQTRGT AEPITVTIVPAYRALGPSLPNSQPPPEVY VSLIKACGGPGNFCPSFSELQRNFVKHRP TKLKSLLRLVKHWYQQYVKARSPRANL PPLYALELLTIYAWEMGTEEDENFMLDE GFTTVMDDLLEYEVICIYWTYYTLHNA IIEDCVRKQLKKERPIILDPADPTLNVAEG YRWDIVAQRASQCLKQDCCYDNRENPI SWNVKARDIHLTVEQRGYPDFNLIVN PYEPIRKVKEKIRRTRGYSGLQRLSFQVP GSEKQLSSRICSLAKYGIFSHTHIYLET IPSEIQVFVKNPDDGGSYAYANPNNSFIL GLKQQIEDHQGLPKKIQQQLFQGGQVL QGLVGWGFYGIQDSDTLNLSVKKKGE ALFPAS
2490	10541	A	3407	108	442	ALLSWEMSAACWEEPWGLPGGFAKRVL VTGGAGFIR*WRR*PSSGSPETPTFSRSS ACPSASHMIVSLVEDYPNYMIINLDKLD YCASLKNLETISNKQNYKFIQGDICDS
2491	10542	A	3408	115	1196	ALLSWEMSAACWEEPWGLPGGFAKRV LVTGGAGFUSASHMIVSLVEDYPNYMII NLDKLDYCASLKNLETISNKQNYKFIQ DICDSHFVKLALFETEKIDIVLHFAAQTHV DLSFRTCPWSFTHVNV/YMGTHVLVSAA HEARVEKFIYVSTDEVYGGSLDKFDES SPKQPTNPYASSKAAAE/CFVQSYWEQY KEPVVITRSSNVYGPQYPEKVPKFISSL QHNRKCCIHGSLQTRNFLYATDVVEAF LTVLKKGKPGIYNIGTNFEMSVVQLAK ELIQLIKETNSESEMENWVDYVNDRPTN DMRYPMKSEKIHGLRWRPKVPWKEGK KTIEWYRENFHNWKNVEKALEPPV
2492	10543	A	3409	359	532	IVMCHCLELVIGEPCHICGSVCVCVYA AVCVLCVCVHTCICFGACV/CVCVCRRV CPVCLCTYLWGLCVVYQVRNFWK
2493	10544	A	341	587	1097	QKIINKVVPITGRQCCFVRLSPLESKFQS KEEIRNTSHRANVTKRNSANRKTDAILA TPGPPPAQPHGA/PGGYAPRLPQHPAPGC FPKCGNPAPRPWYGPFGPPLRKEQKRN PRKGTG*MQGVSPVPFPPT*NAGPLPGGS LGPPISGHHLVSHTWPPPPRSPTAPP
2494	10545	A	3410	27	1389	GQPRSQQAGSWGKRRQESYRAREGDG GSGSLTGLLRTAAGWLLPARASPRERAT RHPVRSPPQRRARRSLQRGPERPRDPPQ TAWAARMCTKMEQPFYHDDSYTATGY GRAPGGLSLHDYKLLKPSLAVNLADPYR SLKAPGARGPGPEGGGGSYFSCQGS TGPSLKLASSELEWRLIVPNSKTAINTTPT PPIGQYFYPRGGSGGGAGGAWGGVTE EQEGFADGFVKALDDLHKMNHVTPPNV SLGATGGPPHGP/GIRASPEPPPVYTN LSSYSPASASSGGAGAAGVTGSSYPTTTI SYLPHAPPFAGGHPAQLGLGRGASTFKE EPQTVPEARSRDATPPVSPINMERPRAPS KLEPSGLRNRLAGHQSAKGRKLRKFAR LEDKVVKTLKAENAGPVEVPPGLPPGSR LAQAQTRKVIDPRVSNGLSLLFGVARGH AFLNVPCPL

2495	10546	A	3411	1	3589	IRRPDLQRGGIPLRKKPLEDLVCKLADISI NYVNERKSEQHLRFLSTLLDSFSSSRVFK MLLGDEKQSIVQAKPLEIAKLVQKNPAV QFLYQKLGWLNEDQQRKDFGLVDILYS ALRCCDNDMERKKVLDLTKVDLKW SLLKIEKACPSSDKHALVTPWLKGDILG EKLVLADCLCNEDLESRVSSSESHFSE WTLSSLVLSQHVKN DYLGDVYVERIIV RLHETLFTKTKLSEAESSDSSVSFICDV
2496	10547	A	3412	112	828	PVFKTLPSPHRRRAHAAALDLGASSSDP HADSGTGNWAEVDPGSAQHLPRPSSQLP HFLLSGGGPGQCRRGQRGELLPSGGTA TPCAPRGLGWGLRSCALRAAAAPTAPQ TLRRRAPRPARPRAGPGLAPQPSISDFL GQAACASGTMLRWLWDFVLPAAACQDA EQPTRYETLFQALDRNGDGVVDIGELQE GLRNLGIPLGQDAEEVGRRRGAA*AGG LRALGTLRGPRRAA
2497	10548	A	3413	1	1413	RDARRYSGTTPHPSISRDLGQAVCASG TMLRWLWDFVLPAAACQDAEQPTRYET LFQALDRNGDGVVDIGELQEGKLN LGIP LGQDAEEKIFTTGDVNDKDKLDFEEMK HLKDHEKKMKLAFKSLDKNNDGKIEAS EIVQPLQTLGLTISEQQAELILQSIDVGT MTVDWNEWRDYFLFNPVTDIEIIRFWK HSTGIDIGDSLTPDEFTEDEKKSQWWR QLLAGGIAGAVSRTSTAPLDRKIMMQV HGSKSDKMNIFGGFRQMVKEGGIRSLW RGNGTNVIKAPETAVKFWAYEQVMKT RLAVGKTGQYSGIYDCAKKILKHEGLGA FYKGYVPNLLGIIPYAGIDLAVYELKSY WLDNFAKDSVNP GVMVLLGCGALSSTC GQLASYPLALVTRMQAQAAMLEGSPQL NMVGLFRRIISKEGIPGLYRGITPNFMKG LPAVGISYVVYENMKQTLGVTVQK
2498	10549	A	3414	1	222	
2499	10550	A	3415	2	528	SRVDPRVRHSARLTMCHSRISCHPTMTIL QAPTPAPSTIPGPRRGSGPEIFTFDPLPEP AADPAGRPSASRGHRKRSRRVLYPRVV RRQLPVEEPNPAKRLFLLLTIVFCQIL MAEEGVPAPLPPEDAPNAASLAAPTIVS PVLEPFNLTSPLDYASWNLSTFLQQHP AAF
2500	10551	A	3416	1623	2346	TFPSGAKPPLAASHHHRHLRDASRLWRG RSGGPSVTRRPTFLPSYPPAPAHAPASAP GPSDSDCSPPFRRRSPTRTDCFVCRPVC PFPFIVPPGRAPSRMAEVL LLLLLSLPSA AAKIQGYPCPGPQLSRDILSSGDGWWA GLSGHHRVCGGPGVQEPQTTVVHNATD GIKYIHHRLIHLTPADYDDFVNAIRSARS AFCLTPMGMMQFNDILQNLKRSKQTKE LWQRVSLMATFSP
2501	10552	A	3417	256	657	KGLSLSKKAGENHYFYLPHSFPEKAPPG AIGHLSPRGTIEEALDLSARIVAEFIVLP ASHHPRHLRDASRLWRGRSGGPSVTRRP TFLPSYPPAPAHAPASAPGPSDSDCSPF RRRSPTRLARMRGLLG
2502	10553	A	3418	294	573	SHLLGLHEPSRHNRA SPGLFCTHRRGIH SASSKPSSPTSP*CKSPRSPGAAPRRG*L E*AGLLGFSTGFRGFPNRRARRRLGVAI AHQAP
2503	10554	A	3419	1	931	

2504	10555	A	342	462	1238	SFYETKLLISGSETLDSKDOYRINKYNH YFQTLHYTHLKFSSGLSSATQ*KLSWSK GNG*GERPVSPPLMAPSGQLLAHVWS EVKSVSSCFLSCQGHVLTSPGSSFPQCQ PAQCYLIPCSSEKYTNW/PPIPPSLGIQ SS/SSPGS*SGPISSSKYSGDAQVCFSSPNL FPSFRPVTGCIQSPPNISPGAEGKGCGLQPI PVHSFLTPTSPVSPVPI*RSRSTHPETHS MSHSSQSSPQAPSALPPSISLPLSP
2505	10556	A	3420	640	757	
2506	10557	A	3421	865	1314	TPLPSTTPPKQPNRGPSPGAESLETEEEE EEEKGSERPPPPRRSRSLRPPWRWRGD PVGQ\QETGPPKLRPWDGAEA\GVA\GH AAAFPH\ITEGRLVPLGG\GVRLTPSP\TL LRTGAGLLHYERLWLNLVGP\CLHPRQ DHTLGLGSWG
2507	10558	A	3422	2	310	ARDVHPLPLPFLGNSLALGMQMRPQL LLSRCRLPATCASSCKCKECKCTS/TAR KKSCCSLNPCLVPCAPRACICKRGHR RSASLLRLMTGTALLPTYK
2508	10559	A	3423	41	317	LLKFFFETGSHSFIQVGVQWCDHDSLD LPGSGDPSS/AS/RVAGTAGMHDHTWLIF VFLVRRWSLTVLLRLVFNSWAKVILHL GLPKGWGLQV
2509	10560	A	3429	781	949	LLCLGLAYRRHFEMSLWLGMAHVHCNP SAWGGRGGQIT/R/QEFETSLVNMVKT CLY
2510	10561	A	343	2	384	
2511	10562	A	3430	3	1029	RAFRDDTMAGGGCRAGPGATCSGDGA GSDQRQNEEIEAMAAIYGEEWCVIDDCA KIFCIRISDDIDPTWTLCLHVMPLNEYP CTAPPIYQLNAPWLKGQERADLSNSLEEI YIQNIAESILYLWVEKIRDVLIQKSQMT PGPDVKKKTEEDVECEDDLILACQPESS LKALDFÆVSEARTEVEVEELPIDHGIPIT DRRSTFQAHLPVVCVKQVKMGLSKLY ENKKIASATHNIYAYRIYCEDKQTFLOD CEDDGETVAGGRLLHLMEILSVKDVGMG VRARWYVGMGLGPDGRFKHINNCVRNIL VEKNYTSSLEESSKALGKNKKVRKDKK RNEH
2512	10563	C	3431	153	224	MVAHACNPSTLGDRGGRFTRSGD*
2513	10564	C	3432	20	58	MTQLTKRKETIL*
2514	10565	A	3433	837	1125	LDVTTSKNQFVLRTWLKIPGNCYRRHFF FFETESCSVAQAGVQWHNLSSLQAPPPG\ SRHSPTSAS\QAAGTYRYPAHHAWPNFV FVFLVETGFHPC
2515	10566	A	3438	56	290	
2516	10567	A	3439	468	993	VLLACFWPGSDFWPSRRKTYGTAPQSC YSFYVALDCGGVSRLVIFVSWRNPQVAP TSAHQNRPSRNPVSRPPNTQRVARRKHY ALADGYTERRWTNAPCRAESSFPNCPS AAPIPDSYDK*PSRATLFTSHLTVEAFPV WSYLYPGETPRLHPRAHTRTPAAIRYP DRQTPNGLRGANTMHSQMDTLNGDGR THLAGQRARSPTARPQRQYRIHTSDL PGLVRKYASGCCLRIWYCCAWIERALSL QVGGGVFGDPLSEGQAECDHGST
2517	10568	A	344	2	624	SDSRASCKMLLILLSVALLALSSAQNLINE DVSQEEPSLIAGNPQGSPQGGNKPQGP PPPPGKPPQGGNKPQGGPPPGKPPQ PPPGQDKSRSPRSPGKPPQGGPPQGG* LQGGPPRGKPPQGGPPGKPPQGGPPG SQSARAPPKPPQGGPPQGGNPPQGGPP AGGNPQQPPQAPPAGQPPQGGPPQGG SRPPQ
2518	10569	A	3440	1	3114	

2519	10570	A	3441	3	401	TSSLSLSGKSGRYIVFLRRSVGIQSPSAVA TVRLLLAGSDRRFAAGSAGCAVLSRAER S*EPGCCYRIRRSARLRAGSIGNRDKPV AWPDTGSGDNTEVYFRAHQAGILPDTVL AGPAQRVAVSGGTPVDW
2520	10571	A	3442	2874	3062	
2521	10572	A	3443	2766	3323	MPDLVEGREKSDKGAQPQRTQSRARSART NGSGVRILHSLWRIIGIPLLLGYSLVCSR VLLACFWPGSDFWPRSRRKTYGTAPQSCY SFYVALDCGGVSRLVIFVSWRNPQVAPT SAHQNRPSRNPVSRPNTQRRVARRKH YALADGYTERRWTDAPCRAESSFPNCPL* RQYRIHIVDASVCGP
2522	10573	A	3444	968	1440	
2523	10574	A	3445	3	640	LSVVRSRIHMGVGVGVGCPVRYRNQDD HELQITHGNKILCGIVCDKGAQPQRTQS RSARTNGSGVRILHSLWRIIGIPLLLGYSL VCSRVLACFWPGSDFWPRSRRKTYGT VPQSCYSFYVALDCGGVSRLVIFVSWRN PQVAPTSAHQNRPRNPVSRPNTQRRV ARRKHYPADGYTERRWTIAPCRAESSFP PNCPSAAPIDSYDK
2524	10575	A	3446	1	3140	MVYKMRYSRQHPYSIKEKQMKSEVLSV KEKIGYGMGDAASHIIFDNVMLYMMFF YTDIFGIPAGFVGTMLVARALDAISDPC MGLLADRTRSRWGFWRPWWLFGALPFG IVCVLAYSTPDLMSNGKMIYAITYTLT LLYTVVNIPYCALGGVITNDPTQRI SLOS WRFVLATAGGMLSTVLMPLVNLIGGD NKPLGFQGDLSPMFSTPEEIARPGPYEND VHVVGASSLAAGHKTLIPELVRSAEQHM GTR
2525	10576	A	3447	750	1340	ILHAPAPFASASHEQPEWSDKGAQPQ RTQSRARSARTNGSGVRILHSLWRIIGIPL LLGYSLVCSRVLACFWPGSDFWPRSRRKT YGTAPQSCYSFYVALDCGGVSRLVIFVS WRNPQVAPTSAHQNRPSRNPVSRPNTQ RVARRKHYPALADGYTERRWTNAPCRAE SSFPNCPFAAPIDSYDK*PFRIVS
2526	10577	A	3448	93	699	RASVQQKKLSTDDKGAQPQRTQSRSA RTNGSGVRILHSLWRIIGIPLLLGYSLVCS RVLLACFWPGSDFWPRSRRKTYGTAPQS CYSFYVALDCGGVSRLVIFVSWRNPQVAPT SAHQNRPSRNPVSRPNTQRRVARRKH YALADGYTERSATNAPCRAESSFPPE LPVPQVPNTGFIRQVTFRDCFVNTPQAA ASGFW
2527	10578	A	3449	1000	1530	QRYSDNPPNDKGAQPQRTQSRARSARTNG SGVRILHSLWRIIGIPLLLGYSLVCSRVL ACFWPGSDFWPRSRRKTYGTAPQSCYSF YVALDCGGVSRLVIFVSWRNPQVAPTS AHQNRPSRNPVSRPNTQRRVARRKH YALADGYTERRWTNAPCRA/VEFPNCPWE AQYRIIRK
2528	10579	A	345	85	194	
2529	10580	A	3450	106	375	
2530	10581	A	3451	232	376	KKGVLSCVRRHSMET*NEKPALLKMSGI KIPSPVHHFVFHKQSEKGA
2531	10582	A	3452	481	781	IKDKKVSNSQLLCGYLVAMTDVETTYA DFIASGRTGRRNAIHDLVSSASGNSNEL ALKLAGLDINKTEGEEDAQRSSTEQSG EAQGEAAKSESLTPHF
2532	10583	A	3453	15	369	RVGEYDGYEAGPAPCPPRASLCQ/PGPD QGPSPCTQAIPAPRKPHPCWPQGP KLL GELPGLCLQGSPTAGHPCCPPQETGAQ GAPASPWFSQNNACGLICFCPPQPRIFL CINSNS

2533	10584	A	3454	201	711	KKMARTKQTARKSTGGKAPRQTAG/LA TKAARKSAPSTGGVKKPHRYRPGTVAL REIRRYQKSTELLNRKLPFQRLVREIAA GFSKTALRFQ SARIRCACRLAKRYLVG LFEDNNLCVAIHAKRVTIHAPKTIQLARR DTGEKRALSEGSFYGVLLVKFLLKYFGLI C
2534	10585	A	3455	758	1188	GKLSGRGTGSLLRGDALPRLQKTGCPKA GGNRPPAVSQSRGGAVRDEGLLAAQTA EGGPRVEEARPPQLPQARGSLPETPPPPA PDAITPPPPSGSHISPSSAEGPSRPPVGVAV DSGGAPQPQDPGPAPAPALLRHRHQTP RP
2535	10586	A	3456	2	297	
2536	10587	A	3457	1	1128	
2537	10588	B	3458	58	1282	MRTLLKNTVIVLLPYKSGKLYGESSTE LNVEVLNCTASQFKCASGDKCIGVTNRC DGVFDCSDNSDEAGCPTRPFGMCHSDEF QCQEDGICIPNFWCEDGHPDCLYGSDEH NACVPKTCPSYFHCNDGNCIHRWL DRDNDCGDMSDEKDCPTQPFRCPSWQW QCLGHNICVNLVSVCDGIFDCPNGQMSP HFALVAAAVDWLSQDSKWLQDSHIVPD VKLCVVASAYRQSYQSLGNDISLGYRCQ PKFSRSIDPTGKAVQTADIRLSARATLWL GGSIEESPVLCSLTLRLLRLRPPLTWTS NRPTQPCTAQQTQNSVGIAAPSAIRVIY PESVVLNAVIVLPGDPEVSGLPRAFKRRF SVEVRLDCGTFKLLLVYCTHPGDIKVT CKTGALVAFRCFLPX*
2538	10589	A	3459	1	1870	MGKVPMRSEKPAHEVRASTISTTDLSSI ESFFSRGPSTNHTSIKGRPLTAELKNKT NRAEEKIKKEELAISGVDEDDGGKGIKD TGDLVEMVDLAFRCRHNDCGDYSDER GCLYQTCQQNQFTCONGRCSKTFVCDE DNDCGDGSDELMHLCHTPEPTCPPHEFK CDNGRCIEMMKLCNHLDDCLDNSDEKG CGEFIFRASSPGAILILIVAVSTIHAIIDPR LGNALPVRRIVQPQYSWTPLTLKLWASR VSNCQGLLSAAKTHHTVQFSILMALPKG HLFSARLTGKCVAQVIVEGFFAGRDKFV CVLNVAFPYQFVLSLVRTGTASKSTVG FYRNNISVITGFLIGFLCQSSALDLETFTV VSHFYFGINECHDPSISGCDHNCTDLTS FYCSCRPGYKLMSDKRTCVDIDECTEMP FVCSQKCEVIGSYICKCAPGYLREPDG KTCRQNSNIEPYLIFSNRYLRLNLTIDGY FYSLILEGLDNVVALDFDRVEKRLYWD TQRQVIERMFLNKTNKETIINHRLPAAES LAVDWVSSALKGGFVHPALNGGSQHFTL LVD*VIKWLYLISNSVPC*KRRWGLPVF WFGGKREMSWEMMGH*LVEGLCGCCH
2539	10590	A	346	617	711	
2540	10591	B	3460	1	2973	MEKQSINOQLPYPDQLPTQCSPLTGLNE YPLSGVSIPDES WDRKSKHSAAMTLRQV HQRHQNNFLDHNTNVEEYSAQMRIGT HCCCTSESLLLLVASQNKIADSVTSQV HNIYSLVENGSIYAVDFDSISGRIFWSD ATQGKTWSAFQNGTDRRVVFDSSILTET IAIDWVGRNLYWTDYALETIEVSKIDGS HRTVLISKNLNPRGLALDPRMKLLYFM DSYLDYMDFCDYNGHHRRQVIASDLGF EV

2541	10592	A	3461	257	3561	RHKKPFKKSMNPGAG/MLYWSDDQGTDS GVPKIASANMDGTSVKTLFTGNLEHLE CVTLDIEEQKLYWAVTGRGVIERGNVD GTDRMILVHQLSHPWGIAVHDSFLYYTD EQYEVIERVDKATGANKIVLRDNVPLNR GLQVYHRRITEP/CPN*PKTIKIGHYIKDK PTCSSE/AKWYLPHPGQM*IA/DKPEAQR GSRRLTDLEGGNNEIDWSISCDIYPSSQ VFDLSAKIEGKVDKRTCCPSSFPGYGP
2542	10593	A	3462	1	10725	MAGAPPPASLPCCSLISDCCASNQRDSVG VGPSEPGVGYSLVVRFLSRSEKRNIRV GVTRFSRELDPDLRFPEHLFFTDWRLGAI IRVRKADGGEMTVIRSGIAYILHLKSYDV NIQTGSNACNQPTHPNGDCSHFCFPVPN FQRVCGCPYGMRLASNHLTCEGDPTNEP PTEQCGLFSFPCKNGRCVPNYLDCGDVD DCHDNSDEQLCGTLNNTCSSAFTCGHG ECIPAHWRCDKRNDCCVDSDEHNCPNP T
2543	10594	A	3463	3	14105	SWRRCRPKGAFASRGAAGAVCYARPPP GEGTARPGTIAEMDRGPAAVACTLLAL VACLAPASGQECDSAHFRCGSGHCIPAD WRCDGTKDCSDDADEIGCAVVTCCQGY FKCQSEGQCIPSSWVCDQDQDCDDGSDE RQDCSQSTCSSHQITCSNGQCIPSEYRCD HVRDCPDGADENDCQYPTCEQLTCDNG ACYNTSQKCDWKVDCRDSSDEINTEIC LHNEFSCNGECIPRAYVCDHNDCCQD GSDEHA
2544	10595	A	3469	2	230	WQDFYCO*HIFGAFFTHPDGPSNWAFFS NFVFMFCHCLPKCWDYRGESPRPAHFKIF VDQCTVVKKKKIRKIKNKFL
2545	10596	A	347	2	343	SSVRAVEFPEDASGGSSPSGTSKSDANR ASSGGGGGLMEEMNKLLAKRKAAS QSDKPAEKKEDESQMEDPSTSPSPGTRA ATSHLTPQRLAGSPGSGATRWRSLCPRF CPG
2546	10597	A	3470	134	929	RTAARGCNGIPGAAWEAALPRRRPRR HPSVNPRSRAAGSPRTRGRRTEERPSGSR LGDRGRGRALPGGRLGGRGRGRAPERV GGRGRGRGTAAPRAAPAARGSRPGPAG TMAAGSITTLPALPEDGGSGAFPPGHFK DPKRLYCKNGGFFLRHPDGRVDGVREK SDPHIKLQLQAEERGVSISKGVVC/SNRY LAMKVEDGRLLASKCVTDECFFERLESN NYNTYRSRKYSWYVALKRTGQYKLG KTGPGQKAILFLPMSG
2547	10598	A	3471	1	2604	
2548	10599	A	3472	478	697	YLIYQSRFFLFSSIRYCQMPMPMG/YCNP YAYGQYNMPYPVYHQSPGQAPYPGTQ QPSYFP/QPPQSYYPQQ
2549	10600	A	3473	21	194	
2550	10601	A	3474	2	767	APLSPGAQLGRGAPTSAPPPAAEAHPA ARRGLRSPQLPSGAMSQNGAPGMQEE LQGSWVELHFSNNGNGSVPASVSIYNG DMEKILLDAQHESGRSSSKSHCDSPAS SQTPQDTNRAFETDTHSIGREKQLTVLR EDDIERRKEVESILRKNSDWIWDWSSA GKIFPPKEFLFKTPGSRATLSMRINTSVL KKGIFSAEFLKVLFPFAALSIAWPIGL GIYIGKASDQSTSTFGWKEPGSLDLVR

2551	10602	A	3475	1	4220	MLNIVQDSALLEAIGCQMEMGGGENNL KSHSRTNSGISSASGGSTEPTTPDSEPA QALLRDYALNTDSAAGLLIRSIHLVTQRL NSQWRQDMSISLAALELLSGLAKVKVM VDSGDRKRAISSVCTYIVYQCSRPAPLHS RDLHSMIVA AFQCLCVWLTEHPDMLDE KDCLKEVLEIVELGISGSKSKNNEQEVK YKGDKEPNPASM RVKDAAEATLTCLVN ETTLIKYSRLPTINKHSFRYFVLDNSVILA ML
2552	10603	A	3476	3	1676	HASDSFRYFVLDNSVILAMLEOPLGNEQ NDFFPSVTVLVRGMSGRLAWAQQCLL PRGAKANQKLFVPEPRPVKNDVGFKYS VKHRPFPEEVDKIPFVKADLSIPDLHEIVT EELEERHRKLRSGMAQQIAYEIHLEQQS EELQKRSFPDPVTDCKPPPAQEFQTAR LFLSHFGFLSLEALKEPANSRLPPHIALD STIPGFFDDIGYLDLLPCRPFDTVFIFYMK PGQKTNQEILKNVESSRTVQPHFLEFLLS LGWSVDVGRHPGWTHGVSTSWSNCCD DGEQSQQEEVISSEDIGASIFNGQKKVLY YADALTEIAFVVPSPVESLTDLESNISD QSDSNMDLMPGILKQPSLTLELFPNHT DNLNSSQRLSPSSRMKLPQGRPVPLGP ETRIVSVVWVERYDDIENFPLSELMTEIS TGVETTANSSTSLRSTTLEKEVLVIFIHPL NTGLFRIKIQGATGKFNMVIPLDGMIVS RRALGFLVRQTVINICRRKRLESYSPP HVRKQKITDIVNKYRNKQLEPEFYTSL FQEVGLKNCSS
2553	10604	A	3477	288	589	WCSRRRGWYLLGFHNYWRSSTFLVRC TPSCPGGCCPRYGIYPVRSCPRLPGGVSR YGSIHSG/RWCSWSPSWSPWLTSVTPRL YVALM*AVVCPVVGKQP
2554	10605	A	3478	1250	1909	GAGPDMVWDTELELALKISKGLQRPKA HREEREDIGKHESRCVIYFGTAKKWILK DKNGRSRVDVISHRLKVSSGLCKTHEIG FDPLALKCPLRSRTAPWWPLDRVSFDLH HLVIGNFFVGNRKIFLDYLVYGFAHNRR WKLLVQSWSDGCVHRTFGLVKSFSKAS FCIFITKQRKSSDLALKQICANTARVIL KLKHFHFVSVMCTFLFTCENGL
2555	10606	A	3479	3	246	AAAMSALSLILGLLTAVPPASCQ/GEP AHMILTVGNKADGVLVGTDGRYSSMAA SFRSSEHENAYENVPEEGKVRSTPM

2556	10607	A	348	2	2355	WCDLGSLOPPPPRFKQFSCLSLPRHS*TS Q*POPPKTQLNFTVAIDFTASNGETRMSE KVGGNPLQPTSLHYMSPYQLSAYAMAL KAVGEIIQDYDSKLFPAVGFGAKLPPE GRISHQFPLNNDEDPNCAGIEGVLESYF QSLRTVQLYGPTYFAPVINQVASNSWSS VTLGTDSEPAVEVPQYVGIRLLVEGFTIK KPMAMCHRRMGVRPAVPLLTQRGSSEG KDSGTPTHSLHTKAQLPSPHVLRHQGV LRRQHSKLVGTALSTTGKALRTLPTAK VFISLPPNLDKFAVAPSILKPRKSIREDRNG RSQKTVHTEGDMNMNIKKIVKQATVLT FTTALLAGGATQAFAKENNQKAYKETY GVSHITRHDMLOIPKQQQNEKYQVPQFD QSTIKNIESAKGLDVWDSWPLQADGT AEYNGYHVVFALAGSPKDADDTSIYMF YQKVGDNIDSWKNAGRVFKDSKDFDA NDPILKDQTQEWSGSATFTSDGKIRLFYT DYSGKHGKQSLTTAQVNVSKSDDTLKI NGVEDHKTIFDGDGKTYQNVQQFIDEGN YTSGDNHTLRDPHYVEDKGHKYLVFEA NTGTENGYQGEESLFNKAYYGGGTNFF RKESQKLQSSAKKRDAELANGALGHEL NNDYTLKKVMKPLITSNTVTDEIERANV FKMNGKWYLFDSRSGSKMTIDGINSNDI YMLGYVSNLSLTGPYKPLNKTGLVLQMG LDPNDVTFTYSHFAVPQAKGNNVVITSY MTNRGFFEDKKATFAPSFLMNIKGKNTS VVKNSILEPGQLAVN
2557	10608	A	3480	162	530	ELLQPMASALLILGLLTAVPPASCOQGL GNLQPMQGLIAAAFLVLAIAFAVN HFWGAKEEP/ESPAHMILTVGNKADGV LVGTGGRYSSMAASFRSSEHENAYEN VPEEGKVRSTPM
2558	10609	A	3481	4	409	NAATSLTANPDATTVNIEDPGETPKHQ GSPRGSGREEDDELLGNDSDKT/EGTV SGNDSSEVNDTWPLPWWGKQANRPLLS LLAGQKKSSPFWTFEYYQTFDVTYQV FDRIKGSLLPIPGKNFVRLYIRSIV
2559	10610	A	3482	160	518	
2560	10611	A	3483	12	197	
2561	10612	A	3484	2	321	ARGVYGYSLFYIPTAILWIIPHKAVRWI LVQJALGISGSLLAMTFWPAVREDNRRV ALATIVIVLLHMLLSVGCLACFFDAPE MDHLPTTTGTPNQTVAAAKSS
2562	10613	A	3485	187	1280	PLARLNLCSLSPLSNLSLFLIGTSL GCTCSLKHSHKPCQIFFLIIGRRLTGRMA AVDDLQFEFGNAATSLTANPDATTVNI EDPGETPKHQPGSPRGSGREEDDELLGN DDSDKTELAGQKKSSPFWTFEYYQTF DVTYQVFDRIKGSLLPIPGKNFVRLYIR SNPDLYGPFWICATLVFAIAISGNLSNFLI HLGEKTYHYVPEFRKVSIAATHIYAYAW LVPLALWGFLMWRNSKVMNIVSYSFLEI VCVYGYSLFYIPTAILWIIPQKAVRWILV MIALGISGSLLAMTFWPAVREDNRRVAL ALVVTIVLLHMLLSVGCLAYFFDAPEMD HLPTTTATPNQTVAAAKSS
2563	10614	A	3486	112	563	LDSSHCCSCSTALFRTQTAAAVPRMVI RVYIASSSGSTAI/RGKRQQDVLGFLEAN KIGFGRKDIAANGENRKWMRENVENS RPGTGVPPLPPQIFNESQYRGDYDAFFG RPEENNNAVYCLRLGTAPPGVSKGRQE GAKPKAGQALTL
2564	10615	A	3487	105	335	GRLFPKVLSYHSVGYLPLILFCHFLANC ILCLMHFL*FFQSYRF*G*KFGFTQHHC HYIFHKQWPLLWKNFPEH



2565	10616	A	3488	993	1338	QNCLKPHFFFFFETRVSLLLPKREAMGTI STHCNLCPLPGFQGNPASASQGR/AGLH GMGPPCR/RGTFVFLIGDRGFLHVGSSWS WNSQPQVIRPPRSPKWCWGLQGMEATV PSP
2566	10617	A	3489	2	454	PLLPPALPGCHALAPSSYIPVAIRALEPPS PYHGQKMQSIPGPPQPRSFLLSPLDVD SPQAPRHCTGLPAPSLSSPPWSCPTLFSW FFEASGVCHHWTSVIAASNSSPIPELPH HPLRISAWLFPPWRDHSQDPLCRGATSP VLNS
2567	10618	A	349	1129	1821	AWGSGKQRRQEAQCEVAEFTPAWRR APDTPAPLVLEPARA*HTSPKKHPPMWC RFFFRQSFALVPQIGVQWRNLGSLQPLP PRFKAFFSYPPPPSSWHYVRHVPIVFSA NFCIFNKRWGFTMLAKLVLNS*PHEIHP PGPSQSAGIMGVSHCTWLVSFVKVVLV DYFFEKFPN*GNRFEFYFYLFETGSHSVN QAGVQR/PYHASLQPPQAQVSLPSSW DYRHVPF
2568	10619	A	3490	1109	1448	PRLISKCFLLLLFRQSHFVAQAGVQWC DLRSVYHLPPGLKRFSCSLPSSWDYRH LPPCPANFCNFSRDRVSPCCPGWFRTPD PGDPPASAPKWWEYTL*PPGPDHPKAF
2569	10620	A	3491	14	250	VLSVGLPTGDTGIGLSRKTSPAPVALIHS HSLKQAH*TLGSRGTGNIHAIYRGVLK YCNFICLGFMLRYQLVSPSF
2570	10621	A	3492	1	1065	
2571	10622	A	3493	90	1937	AGGNQRTQSPRKNFMAFQASHRPAWGK SRKKNWQYEGPTQKFLKRNNSVAPDG PSDPSISASSEQSGAQPPGLQVERIVDK RKNKKGKTEYLVRWKGYDSEDDTWEP EQHLVNCEEYIHDFFNRRHTEKQKESTLT RTNRTSPNNARKQISRSTNSNFSKTSKPA LVIGKDHEKNSQLFAASQKFRKNTAPS LSSRKNMDLAKSGIKILVPKSPVKSRTAV DGFQSESPKLDPVEQGGQEDTVAPEVAA EKPVGALLGPGAERARMGSRPRIHLVP QVPGPVTAAMATGLAVNGKGTSPFMDA LTANGTINIQTSVTGVTASKRFIDRR DQPFDKRLRFSVRQTESAYRYRDIVVRK QDGFTHILLSTKSENNSLNPVLEVLREVQS ALSTAAANDSKVVLPRAVGSVFCCGLN FNYFKPRLPNARKRESIKMAEAI RNFN TFIQFKPIIVAVNGPAIGL GASILPLCDV VWAN EKAWFQTPYTTFGQSQEGCSPV MFPKIMGGSICILDAVLGDRNLTAQEAC GKGLVSRVFWPGTSPRKVMVRIKELASC NPVVLEESKALVRCNMKMELEQANERE CEVLKKIWG\SAQGDGTRMLKVLCRGKI E
2572	10623	A	3494	2	572	WCLQHD/LGHASIFKKSWWNHVAQKFV MGQ/LKGFSAHWWNFRHFQHHAKPNIF HKDPDVTVPVFLGESSVEYGKKRR YLPYNQOHLYFFLIGPPLTLVNFEVENL AYMLVCMQWAVSGVAQDPGHTAAVA GGGASGDSTCP*RTGCTDLLWAASFY ARFFLSYLPFYGVPGVLLFFVAVRYGRE WR
2573	10624	A	3495	25	430	YKNSFPILALGKCAMLTFPLPLSHQA QSQGHRAEYTCGRSPFPVGSPLWGQ AAMRAGGWVGR TAECFSGMESRPG*R VSGRGAGGQPRPSGMSLGGPVPPAPSS PLLPPAGRCNPRTERTWNLPTRSA

2574	10625	A	3496	821	1412	GSARASPOGPGKPLVRVDHTDEPHQGD RPREAPGLGQLSAGSHLQRGALTFHQL VQRAPQLPDRAPPLPQDAETQLQPGCPA CQVAVCQVARPQLRSEALPHRAGGHR QVPEESLVTSCWTPPTSISEGNTQAGREGL RAPATKPSPRDRIPPTPLTSLGVPCLPS WYCCPLGLPLTCVFSSPMALALGLMGQ G
2575	10626	A	3497	32	616	VLQCSHGCFSPSSGG\LTDEAASSCCSD ADPSTKDFLLQQTMLRVKDPKKSDFY TRVLGMTLIQKCDPIMKFSLYFLAYE DKNDIPKAEKDEKIAWAVSRKATLELTQ QFGALKDDATQSYHNGNSDPRGFHIGI AVPDVYSACKRFEELGVKFVKKPDDG KMKGLVAFIQDPDGYWIEILNPNKMATL M
2576	10627	A	3498	77	403	
2577	10628	A	3499	18	753	TQPQLTSTCYRAFASWTRSLLEPATILP TTCCPAPAAMCRTLAAPPTCLERAKEF KTLGIFPHKSSELGFDTGSTGKFEWGSK HSKGDLKTSQKDVLGWRESFDLLSSK NGVAAFHAFKTEFSEENLEFWLACEE FKKIRSATKLASRAHQIFEEFICSEAPKE VNIDHETRELTRMNLQTATATCFDAAQ KTRTLMEKD/SPYPRFLKSPAYRDLAAQ ASAASATLSSCSLDEPSHT
2578	10629	A	35	45	819	RSLALSPRLECNGAISAHCKLRLPGSRHS PASASRAAGTTGAHHRARLIFFVLVET GFHRVSQDGLE/LPDL/DDPPASASQSAGI TGVTAAAPSRACSFKLARGRACPGWDWA EELTGTSHTRRVHPGQALWGWDWRCS CGSRSWQT*LQRCPAVLRGWLACLTQ EEQIGPYVSVPVIPGAACCFIDVLR*KI SDKDVFKAGRGAQPKTFSLLRKSL/NPV TQARVQWCDLSSLQLLPPRFK*FSCFSLP SRTIT
2579	10630	A	350	325	608	LMPNPRHFERLRQADHLRSGVPRPALV QHGETLSVLKIQKLGHHGSTCL*SQLLRR LRQKNLLSLGGRGCSKLRSHHCTPAWV TEPDSVSKKK
2580	10631	A	3500	28	342	PGSTHASADAWVHPKNI/SSVNALSPGPH CAQTEV/IVSPAPRCLCHRRGPRPSCCPN PVPSLTSLCTRFPSCRATLKNRKAACLN PASPIVKKIEKMLNSDKSN
2581	10632	A	3501	1	274	MARATLSAAPSNPRLLRVALLLLLVA SRAAGASVVTELRCQCLQTLQGIHLKN IQSVNATLKNKGKACLNPAAPMVQKIE KILNNP
2582	10633	A	3502	1	893	MSSREVTTPGKDVARSRLRSGKSGDPRRT ALGSRSSASSQAVISVSLRAAGSRSRSDS GQKENIPQLAGVTQDSQTRTSLVSAPTPL HPRGGAIAFLPNSGSIWSSGNFPGPLRA FQPQPCIKGVRRSRATEPGPQAAPCQLS SSHRSNRLLSPMARATLSAAPSNPRLLR VALLLLLVAASRAAGAPLATELRCQC LQTLQGIHLKNIQSVKVKSPGPHCAQTE VM*VSPAAAAATAGVPDSPAAPNPVLS TSCLTRFPSCRATLKNQKACLNPAASP MVKKIEKMLKK
2583	10634	A	3503	1	407	ATEPGPQAPPRQLFRSSHRSQTRLLSPMA RAALSAAPSNPRLLRVALLLLLVAAGR RAAGASVATELRCQCLQTLQGIHPKNIQ SVNVKSPGPHCAQNEVHKHTQEMGGKA CLNPASPIKKIEKMLNSDKSN

2584	10635	A	3507	47	891	KQPFVWPAGGERLSGARPKKEARLLR WCPMSFKRNRSDRFYSTRCCGVCCHVR TGTHLGTWYMVVNLLMAILTVEVTHP NSMPAVNIQYEVIIGNYYSISERMADNA C/VFFFAVSVLKVYNPVPMLVYGSNFLY PSGVGWIPFFCYRLFDVLSICLVAISSLT YLPRIKEYLADQLPDFDKDDLRLALADS CLLFIVLVFFALFIIFKAYLINCWNCYK YINNRN/VCPEIAVYPAFEAPQYVLPY EMGREKWPEKEHPPLLTWPEGNSGLW TINP
2585	10636	A	3508	246	559	MPVAVMAES/AFSFKLLDQCENQELEA PGGIATPPVYGQLLALYLLHN/GQRIWQR DFPGIYTTINAHQWSETVQPIMEALRDAT RRRAFALVSQAYTSIIADDDFA
2586	10637	A	3509	2	250	
2587	10638	A	351	3	218	
2588	10639	A	3510	2	119	
2589	10640	A	3511	197	921	GTWVGLAVRTVQRRGPAAKMPVAVMA ESAFSFKLLDQCENQELEAPGGIATP KVYQQLLALYLLHNDMMNARYLWKRI PPAIKSANSELGGIWSVGQRIWQRDFPG IYTTINAHQWSETVQPIYKHFDRDATR/ RDRAFAPGLLQAVYFQSIRPMIFAFAVGV LPVVEAVKGILEQGWQAIDSTRNGSC PGKPVCRGPWDVFPFNKFISLYSEPAPV PPIPNEQLARLTDYVAFLEN
2590	10641	A	3512	3	354	
2591	10642	A	3513	1	179	
2592	10643	A	3514	63	386	LRTLISCHLVVLMLLFLHTGGDDGLLRG WDTRVPKGFLFTSKR*PPKGQHSVPTPA PAFPGSPALPPGWVCVLDTGSEASAC RHTMGVCSIQSSPHREHILATGR
2593	10644	A	3515	1	147	
2594	10645	A	3516	450	1154	KSHVLEPLSSLALEEQCLALS LDWSTGK TGRAGDQPLKIHSSDSTGQLHLLMVNETR PRLQKVASWQAHQFEAW/TCCFQLPWH PEIVYSGGDDGLLRGWDTRVPGTFLFTS/ IKTHHGCVASIQSKPSSGAHPWPRESYDE THPTVADTRNMKQPLADTPVQGGVWRIK WHPFHHLHLLAACMHSGFKILNCQKAM EERQEATVLTSHLTPDSL VYGADWSWL LFRSLQRAPLVVLS
2595	10646	A	3517	73	168	
2596	10647	A	3518	322	671	RLWASPAAPGKKKEMGNSMKSTPAPAE RPLNPEGLDSDFLAVLSDYPSPDINPPIF RRGEKLRVISDERGWWKAISLSTGRESY IPAICVARSYHGWLRLRPGKKNMAEELL QLPD
2597	10648	A	3519	624	1580	KAATSENKIIICCEWRTSQAALMLHRLW ASPAAPGKKKEMGNSMKSTPAPAERPLP NPEGLDSDFLAVLSDYPSPDISPPIFRGE KLRVISDEGGWWKAISLSTGRESYIPGI CVARVYHGL/WLFEGLGRDKAEELLQL PDTKVGSFMINRESETKKGFYLSVRHRQ VKTYRIFRLPNNWYIISPRLTFQCLIEDL VNHYSEVADGLCCVLTTPCLTQSTAVAP AVRACSSPVTLRQKTVDWRRVSRLQED PEGTENPLGVVESLFSYGLRESIASYLSL TSEDISSFRKKKSISLMYGGSKRKSSFFS SPPYFED

2598	10649	A	352	319	1979	VPGVPAARPERECRAHPASFPPPPGGLDS GFVPSVQDFDKKLTADAYLQILIEQLKL F**QASKRKEDQQRKKIETLKETTNSMV ESIKHCIVLLQIAKDQSNAEKHADGMIST IKSCRCNIPA*SLGTCDQAQCLPRLPYLQ NPLSCVQSQSSVHLS*QVGPVLSYLGTS SNTQIVPGSGNFTNLAASLTPSQAMSTLS PNTVPEFSYSRQ*/EDEFYDAD/ENSIKVG SSPKRLIDSSGSASVLTHSSSGNSLKR PDT TESLNSSLNNGTSDADLFDSDHDDRDDDA EAGSVEEHKSVIMHLLSQVRLGMDLTK VVLPTFILERRSLLEMYADFFAHPDLFVS ISDQKDPKDRMVQVVKWYLSAFHAGRK GSVAKKPYNPILGEIFQCHWTLPNDTEE NKELVSEGPVPGVSKNSVTFVAAEQVSH HPPIFSLFMLECFNKKIQFNAHIWTKSKF LGMSIGVHNIGQGCVCCLDYDEHYILTFP NGYGRSILTPWVELGGEKNINCSKTGY SANIIFHTKPFYGGKKHRITAEIFSPNDKK SFCISIEGEWNG
2599	10650	A	3520	24	688	VDHPPYKRTEKVRQSPKSDIYLGLL VKLYRFSGPEEPNSNIQTRVVLKARLFMS RTNRPPLSLSRMIREDEAFLAGKKKNP AVVVGPKLIMCGVQKGTPLKVCALG GTQAGPHKRILRARGQSRITFDQALD/S PLRGCGTVLLASGPSKGREVVYRHFGKAP GNPHSHTKPYVRSGRKFARARGVRA SRGYKKLTLDPTLLYKKIFADSEKKKK
2600	10651	A	3522	195	391	PGVAGARHPLLGAAPKGRLEVLAVGFH GSAANQVWVSKSHPPQFIPTDQIEGGDRA LKGTCLPLS
2601	10652	A	3523	112	492	AHSRTPARPENRAAASAPRKPRRAMSSP PEGKLETKAGHPPAVKAGGMRIQKHP HTGDTKEEKDKDDQEWESPPKPTVFI SGVIARGDKDFPAAQAQVAHQKPHASM DKHPSRPTQHIQPRK
2602	10653	A	3524	3	982	GTRVGVAWRSVRLLLGPGAGLRGGVVL KVSPSPCRGRRVPVRAEGARGRGRPN KVPGASSGAAVGAARLTAPLLAKAMAS KLLRAVILGPPGLGKGAPVCQRIQNFQ LQVHLSGHFLRENIKAISTEVGEMANQV YREKVFLVPDHVITRLMMSELENRRGQ HWLLDGFPTLQGAELDKICEVDLVIS LNIPFETLKDGLNRRWIHPVSGARVYNLA DENPPHVHGIDDDVTGEPLVQEDDKPE AVAAIRLRQYKDVAKPVIELYKSRGVL HQFSGTETNKMWPVYVYTLFSNKITPIQ SKESILTLAQWEEPWNDVGHFSQ
2603	10654	A	3525	19	445	
2604	10655	A	3526	1	622	QAAWILKARALTEMVYIDEIDVDQEGIA EMMLDENAIQVPRPGTSLKLPGTNQTG GPSQAVRPITSHSEKPITGFLRPSTQSGRP GTMEQAIRTPRTAYTARPITSSSGRFVRL GTASMLTSPDGPFIN*SRNLTKYSQKPK MAKALPEYIFHHENDVKTALELAALSTE HSQYKDWKWKVQIEKRYRRLGMYREA EKQLISAMKQ

2605	10656	A	3527	1	1509	MKAEICKSRTVKDWHNHQKLGEGNKTD SPQOPSEGTNTANTLILDFWPLEMIACCV ETFPQRLTAELFMNPTHWRWHGYKNQSV GALRAPLGQGPSRRGLPGRVGRRLFTP RPPLSWSAGPSLAAPAAMSSEMEPLLLA WSYFRRRKQFQCADLCTQMLEKSPYDQ EPDPELPVHQAAWILKARALTEMVYIDE IDVDQEGIAEMMLDENAI/PSSTPITQAG RPITGFLRPSTQSGRPGTMEQAIRTPRTA YTARPITSSSGRFVRLGTULGMYREAEKQ FKSALKQQEMVDFTFLYLAKVYVSLDQP VTALNLFKQGLDKFPGEVTLCCGIARIYE EMNNMSSAAEYYKEVLKQDNTHVEAIA CIGSNHFYSQPEIALRFYRRLQMGYIN GQLFNNLGLCCFYAQQYDMTLTSFERA LSLAENEEEAADVWYNLGHVAVGIGDT NLAHQCFRLALVNNNNHAEAYNNLAVL GDAEG/RHVEQARALLQTASSISPHMYE PHF
2606	10657	A	353	27	749	STCCFQELVTL*GCKLCTFHPGRKWETR LAEPLQORDPSYRVVMLGELRGIVFLTGI VSPRTENDQEISEDTRSHGVLLGRFQKD ISQGLKFKEAYEREVSLKRPLGNSPGERL NRKMPDFGQVTVERS*PPGEREA/RKYN DFGNSFTVNSNLISHQRLPVG/DTRPHKC DECSKSFNRTSDLIQHQRHTGEKPYECN E/CGKAFSQSSHLIQHQRHTGEKPYECS DWGKTFSCSSDLILH
2607	10658	A	3531	1	174	
2608	10659	A	3532	1	189	MDAVAVYHGKISRETGEKLLLATGLDG SYLLRDESVPVGYCLCVLAFQKPDQIV IPLQYPV
2609	10660	A	3533	3	210	CPRVHQAMD VAVYHGKISRETGEKLL LATGLDGSYLLRDESVPVGYCLCVL*V *YVCCEYDTPCLWYLVMAA
2610	10661	A	3534	1	386	GISLAQFSSSACPRVHQAMD VAVYHG KISRETGEKLLLATGLDGSYLLRDESVP GVYCLCVLYHGYITYRVSQTETGSWS A/EAFQKPDQGIVPLQYPVEKKSSARST QGTGIREDPDVCLKAP
2611	10662	A	3535	224	751	LVPGCCSSGISLAQFSSSACPRVHQAMD AVAVYHGKISRETGEKLLLATGLDGSY LLRDESVPVGYCLCVLYHGYITYRVS QTETGSWSAETAPGVHKRYFRKMKS HFQHFQKQDQIGIVPLQYPVEKKSSARS TQGTGIREDPDVCLNAPLIKISPLRPLFS ITFNIC
2612	10663	A	3536	3	199	SIRAEMSRSVLAVLALLSLSGLEAIQRT PKIQVYITSSSREWKVKFPELLCVVWSST PTLKLTY
2613	10664	A	3537	134	404	
2614	10665	A	3538	415	533	
2615	10666	A	3539	1	3349	MDQPEAPCSSTGPRLAVARELLAAL LSQEQLKFRHKL RDVGPDRSIPWGR ERADAVDLAEQLAQFYGPEPALEVARK TLK RADARDVAAQLQERRLQRLGLGSG TLLSVSEYKKKYREHVLQLHARVKERN ARSVKITKRFTKLLIAPESAAPPEALGPA EEPEPGRARRSDTHTFNRLFRDEEGRRP LTVVLQGPAGIGKTMAAKKILYDWAAG KLYQGQVDFAFFMPCGELLERPGTRSLA DLILD
2616	10667	A	354	69	378	KGGSLGAPRVEGPNFGLAKDSSSPKKRE FPALPPPGGN/KRAGPPCPGKFGFLKKK GVPPGGKRG LNPRPQGDSS*PPKGGGI TGGAPRPGKKRSFSLQKIL
2617	10668	A	3540	3	261	
2618	10669	A	3541	3	429	

2619	10670	A	3542	1	859	ALGKQKCEEWRSKY/EALK/ED/WRNLG AQHRELESQHLVLSKLGADSRDLQM NQALRSLQNEHQQLQAKIECLQADRLC SLYTQDLQDQLKRSEAEKLTLVTRVQQL QGLLQNSQLQEQEKLTK/KRSANLL PQILRYCSFSYLPRGSGMDYMTSWSPSQ FWEFC*VRDVWELFKD*SLALRTLQLVS LLS*DQALPVWSPKSPNEVEPEGTGKE KDWDLRDQLQKKTLLQQAKEKECRELH SELDNLSDEYLSCLRKLQHCREELNQSQ QLPPRRQCGRWLP
2620	10671	A	3543	392	2016	AKRNRCLVIMISPDPRPSPGLARGAESY EAKCERRQEIRESRRCRPNVTTCRQVGK TLRIQQREQLQARLQQFRRRNLELEE KGKAQHPQAREQGPSRRPGQVTGTSSEV FPAQHPPPSGICRDLSDHLSSQAGGLPPQ DTPIKKPPKHHRGTQTKAEGPTIKNDAS QQTNYGVAVLDKEHQLSDYLKEALQRE LVLKQKMMVILQDILLSTLIQASDSSWKQ LNEDKLKGLRSLNQLYTCTQKYSWP GMKKVLLMEDQKNSYEQAKESLQK VLEEKMAEQQLQSTQSRSLALAEQKCE EWRSSQYEALKEDWRTLGTQHRELESQ HVLQSKLQGADSRDLQMNQALRFLNE HQQQLAKIECLQGDRDLCSLDTQDLQD QLKRSEAEKLTLVTRVQQLQGLLQNSQL QLQEKEKLLTKKDQALPVWSPKSPNEV EPEGTGKEKDWDLRDQLQKKTLLQQA EKECRELHSELDNLSDEYLSCLRKLQHC REELNQSQQLPPRRQCGRKGLPVLMMVI APALAVFLANKNNLMI
2621	10672	A	3544	35	219	
2622	10673	A	3545	293	479	
2623	10674	A	3546	1	968	VKLPSCPDAMPGLSLLCWMALCLLGAD HADTGVSQNPRIHNRKQNVTFRCDDPI SEHNRLYWYRQTLGQGPEFLTYFQNEA QLEKSRLLSDRFSERPFGSFTLEIQRTE QGDSAMYLCASSLAGLNQPHFGDGTR LSILEDLNKVFPEVAVFEPSEAEISHTQK ATLVCLATGFFPDHVELSWVWNGKEV HSGVSTDPQLKEQPALNDSRYCLSSRL RVSATFWQNPRIHNRKQNVTFRCDDPI DEWTQDRAKPVTVIQAIAWGRADCGF TSVASYQQGVLSATILYEILLGKATLYAV LVLSALVLMAMVKKRDF
2624	10675	A	3547	278	1283	GGIGEIKQRPSCLRCLDPSLSVLMNLSL ELGSVFSAVISQKPSRDICHRGSLTIQGG VDSQVTMMFWYRQPGQSLTLIATANQ GSEATYESGFVIDKFPISRPNLTFSTLTVS NMSPEDSSIYLCVVEEQGFVGAETQYF GPGTRLLVLEDLKNVFPPEVA/VLFEPSE AEISHTQKATLVCLAICFYLDHVELSWW VNGKEAHSGVSTDPQLKEQPALNDSRY CLSSRLRVSAITFWQNPRIHNRKQNVTF GLSENDEWTQDRAKPVTVIQAIAWGR ADCGFTSGKISYQQGVLSATILYEILLGK ATLYAVLSALVLMAMVKKRDSRG
2625	10676	A	3548	151	286	
2626	10677	A	3549	28	177	
2627	10678	A	355	213	660	KPVILGYAEPAPGQFSRGP/WSRAE/WP GTASPLLV/SCATSALL*SIPKGPDSHRGH QHGTPTKPSKPEKGTAGQLSRYITPQE KEIAPLNPPALKSPSKENRDPDLTGPGQ TSRALTVPAGCALGPQVEPMKALRRQM GGAVFPLGS
2628	10679	A	3550	422	671	RIYPALRMPISINTASIAQARKLVEQLFMF VANIDRIKVSAAAADLMAYCEAHAKEDP LLTPVPAENPFKEKKFFCAHPLSL

2629	10680	B	3551	62	299	MFSLKKWNAVAMWSWDVECDTCAICR VQVMDEGIGVRNWSEALNLIYASEMGF DLDMGSQTSLSPLAHWLLNNLGWMNL X*
2630	10681	A	3552	1	602	ADVEDGEETCALASHSGSSGSKSGGDK MFSLKKWNAVAMWSWDVECDTCAICR VQVMDEGIGVRNWSEALNLIYASEMGF DCRSSTALAVPSVSLASHQPCLDHR* QPIGSIQSSLF*RNSQVS*GRK*KVASYEL LKEGFCVNACLRCAENKQEDCVVW GECNHSFHNCCMSLWVKQNNRCPLCQ DWVVQRIGK
2631	10682	A	3553	2	428	SGGSTPLGLSAFPKPTSSAVGSVGAAM ADVEDGEETCALASHSGSSGSKSGGDK MFSLKKWNAVAMWSWDVECDTCAICR VQVMDACFRCAENKQEDFFVVLGECN HSHFNCHVPCGSKQNNRCPLCQ/QDW VVQRIGK
2632	10683	A	3555	3	378	
2633	10684	A	3556	2	299	LLNSRPRRRQQAQPSLEMQNDAGEFVD LYVPRKCSASNRIIGAKDHASIQMNVAE VDKVTGRFNGQFKTYAICGANRRMGES HDSFLRMAKADGIVSK
2634	10685	A	3557	1	392	RRYLCRVTSFCLSLRAVWWPARRSPAF EMQNGRRRSSDLYRARGKLSASNRIIG AKDHASIQMNVAEVDKVTGRFNGQFK TYAICGAJRRMGESDDSLRLAKADGIV FKELFDWREITDVGIFCHK
2635	10686	A	3558	1	415	FRDIVNENGEGEIQDEEDGYDDVEMT GTGMKES*NSPWVMAG/HGGSNPQANR QTSOSSAKMSTPADKVLKFKENKINLD KLNVTDSVIYKATEKF/DTKGKIVLDP TRMILFKMLTRGHTDIDGCISTGREANV
2636	10687	A	3559	139	1914	AVPFHRAAASGGALQSWTTGGLMSR VVPQGDDADSSDSENRLDKTVKEKDDI LFEDLQDNVNENGEGEIEDEE/WKEGYD DDVEMTGTGMKELENSPRVMSGIGRKQP TGKSTD/PDSSSAKMSTPADKVLKFKEN KINLDKLNVTDSVINKVTEKSRQKEADM YRIKDKADRATVEQVLDPRTRMILFKM VTRGHIITEINGCISTGKEANGYHASTANG ESRAIKIYKTSILVFKDRDKYVSGEFRFR HGYCRGNPRKMVKTWAEKEMRNLIRLN HSR/GYHCPEPIMLRHGLAMSFIGKDD MPATNFGKMFQLSESKARELYLQVIQY MRRMYQDARLVHADLSEFNIMYHGGG VYIIDVSQSVEHDHPHLEFLRKDCAN VNDFFMRHSVAVMTVRELFEFVTDPIPL HHENLDAYLSKAMEIASQRTKERTV/SS QDHVDEEVFKRSYIPRNLDEVKNYERD MDIIMKLKEEDMAMNAQQDNILYQTVT GLKKDLGSGVQKVPALLENQVEERTCSDS EDIGSSECSDDSEEQGDHARPKKHTTD PDIDKKERKKIEVKEAQREKRKNKIPKH VKKRKEKTAKTKKGK
2637	10688	A	356	629	1007	KGTYIKQERLENLRTNHLDKYYNPPMK QNYQKLCQKGMASRTHREESR*MRGNR CRLRITRNA*FEGENLQNKVAQGENLEKK PEPATYI*EA*ESKRDGV*KSYCVSSFPT MQ*KSD*SEYSYG
2638	10689	A	3560	129	567	SYKSRLARKSVTGKAPRKQLAYKKPA SQECGPLLGGLKKPHRYRPGTVLREIR RIVQKSTELMIRKILRFQRLVREIAQDF KTDLRFQERSNQVALQEAARRAYLVWP FLKDTNLVCLSMKRVPMKPRHSSAR RHHVENVL
2639	10690	A	3564	194	338	

2640	10691	A	3565	197	522	GSAAMKVKIKCWNGVAHWLVVANDE NCGICRMAGNGCCPGCECSPSMLSERPR LQGAPATDCPAGCGGPVLPFCFQHALHP QVGLHAQQVQALAPMLPPRIGKFKE
2641	10692	A	3566	1	6521	MLRKRKWLGVVAHACNPSTLGGQGH DKQPQVRRLLSAPGSRIAGQWVLDLKS PHLLKGENDKNSLSQKAFLYVAHVLE SERGVLTMTTETGPDSEVKKAEQEEAPQ QPEAAAAVTPVTPAGHGHPEANSNEK HPSQQDTRPAEQSLDMEEKDYSEADGLS ERTTPSKAQKSPQKIACKYKSAICRVTL DASEYECEVEKHGRGQVLFDLVCEHLN LLEKDYFGLTFCDADSQKNWLDPSKEIK KQIRSE
2642	10693	A	3567	1	1232	GCTGTWGEALFIKEKGFFWSPATGPMA AVQMDPELAKRLFFEGATVVLNMPKG TEFGIDYNSWEVGPKLRGVKMIPP GIHFLHYSSVDKANPKEVGPRMGFFLSLHQRG LTVLRWSTLREEVDLSPAPESEVEAMRA NLQELDQFLGPYPYATLKKWISLTNFISE ATVKKLQPENRQICAFSDVLPVLSMKHT KDRVGOQLPRCGIECKSYQEGLARLPEM KPRAGTEIRFSELPTQMFEGATPAEITK HSMDSLVALETVHNKQFPSSQDVLGEL QFAFVCFLLGNVYEA FEHWKRLNLLC RSEAAMKK/HATRLWINLISILHHQLGEIP ADFFVDIVSQHNFLTSTLQVFFSSACSIA VDATLRKKA EK FQAHLTKKFRWDFAE PEDCAPVVEELPEGIEMG
2643	10694	A	3568	2	166	
2644	10695	A	3569	56	1072	ARGGGAMEGLEENGGVVQVQGELLPC CKICGRTFPVALKKHGPICQKTATKRRKTF DSSRQRAEGTDIPTVKPLKPRPEPPKPS NWRRKHEEFIATIRAAGLDQALKEG KLAPPPPPPSYDPGFIIQW/CPYQCQRKIP MENAADRHNFCKEQAARISNKRFFSTD TKGKPTSRTQVYKPPALKKSNSPGTASS GSSRVPPQSGAGKTVVGVPSQGVSSS SSSLG/NTKLQTLSPSHKGIAAPHAGANV KPRNSTPPSFARNPAPGVLTNKRKTYT ESYIARPDGDCASSLNGGNIGIEGHSPG NFPKFCHECGTKYPVEWAKFCECGIR RMIL
2645	10696	C	357	1	555	MLYVLIESERARIKKLQEEKTRNLESSRK LEPTIVSEHKGLRTEQTDIDVLGQHLTK EHVSSHSQSPIRDSQWFTLSPQEKYACSY ERKDPLIKRAFIIFYHRNAVVS HGGNGPA VVLPISRFVLTPPTFESTLPFLSSRLAWGT SSKDPRIAAGQQSPLEKKILVSKLSSHHT VWNYTEKES*
2646	10697	A	3571	32	469	
2647	10698	A	3572	659	1149	EVTACRQPSVAFSTSLALALTALLEEPP FSLLLHCESPLLGWASSCGGCAGSPSSAG PAGIVLK/SLAGQLPPCRVGLGTCSLPY LSLPPAVGSF MARASLMSAAPCSMARVP STTQGLLSRTPQCGQMAQDWQAAPPAS PVQDPLEEASWAPESSGDLENFYV
2648	10699	C	3573	361	501	MLFLRYAPLVGGSFCIWSHPLQFFLSIK VNFVETLFCFQSFKDIF*
2649	10700	A	3574	124	579	EPLPGLAKAGAGSLSCSVRPCAAGASPT SATPCSIAPSIDHPRAEECGRMVQDWQ AAPAPRCGIHWVKPAGLLSLLMSMVR INMIVKLLVFVILLVT*FTVKVCLYIFQGL CCGLLFCILHGSPSHHRPKDLWHHCDL DVRHEVKGDH



2650	10701	A	3575	2765	3138	YSLKSGSVMPPALFFWLRIALAMQALF WFHMFNFKVVSNSLKKVIGSFMGMALN L*ITLGSMAIFITILIPTHEHGMFFHLFVSS FISLSSGL*FSLKRSFTSLVSWIPRYFILFE AIVNGSSL
2651	10702	A	3576	265	663	GRASGVVRSRWWCDLAGFRGEAADLH GVCYSRLRSPAGFTQWQHQSRSWSCLP VPRRAPALLVALGWSMGWAPPQPLAWV LSPSLPGAGSADWLLQVRGPPSPRPGTP AGPPAPCAALVPARVSPSTLPS
2652	10703	A	3577	82	361	LRSPAGFTQWIRTGAAGGAACQFRAVRP ALLSPWVVDGTGRRGAGGGAYRGGSG RTGAHGTGGSGMAGCRSRAVPRRCAA KTRPCEVQKRQHNVNLYFPVVETKAQT VKWFVLA*ASPCSVGSCAARASPIAAP CSTAPSPIDHPRAECWAHGTLAGSSTC SPGADPLGEASWAPE
2653	10704	A	3578	806	934	KILSSKFFFSFLPSYVCTSSFP*THPSIIST SSSSHVPTN
2654	10705	A	3579	1034	1393	AVTLTGKVCSTPEASETTNPPGGTNN RRASLRAATLTVKVRSTPRGSAASFFKS VRPRTHQFRTQYSPRMSKIRDCSRSCFI SFLASWRIICLL*VLISLCAW*RYRLF LPSS
2655	10706	A	358	4627	5052	LSTKAPRKDTLNFNKCWENWISICRRLQ LGSYLLPY*KINQKWIKGLNDRSETMKL LKENIGEMLNIGLGKDFMVKTSKA*AT KQKIGRWDIKLIKICTAKKT/IRVKRPTV DGNNIFKLSNRGLISRVYKEHNSTVKKK KK
2656	10707	A	3580	529	750	REFRVGVASADPAFGAAGRCPQGG*G A*HTGQWLRRVYVWPQQCQPTGVALDF SPGLSCLPAGQSGSPAARHA
2657	10708	A	3581	2	343	HAVFFISIRSFMFFFLVILVSNSSKLFSTF LVSLHWVRTCSFSSEEFVITHFLKPTSVN SSNSFSVQFCSLAGEEL*SFGGEEAFWFL EFSALHWWFLIFMDLSTFGLCCC
2658	10709	A	3582	289	422	
2659	10710	A	3583	189	309	
2660	10711	A	3584	587	801	
2661	10712	A	3585	76	1740	SLLTAASSFQQLKQSSHLSPSGWDYR LRMTQNKLLKCSKANVYTEVPDGGWG WAVAVSFFFVEVFTYGIKTFGVFFNDL MDSFNESNSRISWIISCVFVLTFAPLAT VLSNRVLGHLVVMGLGLLVSTGMVAA SFSQEVSHMYVAIGHSGLGYCFSFLPTVT ILSYQYFGRTRISIVTAVAISTGECFAVFAF APAIMALKERIGWRYSLFVGLLQNLVI FGALLRPIFIRGPASPKIVIENRKEAQY MLENEKTRTSIDSIDSGVELTTSKPNVPT HTNLELEPKADMQQVLVKTSRPPSEKK APLLDFSILKEKSFICYALFGLFATLGFFA PSLYIPLGISLGIDQDRAAFLSTMAIAE VFGRIGAGFVLNREPIRKIYELICVILLTV SLFAFTFATEFWGLMSCSIFFGFMVGTIG GLTFHCLLKMMSWALQKMSSAAGVYIF IQSIAGLAGPPLAGLLVDQSKIYSAFYF CAAGMALAAVCLALVRPCKMGLCQRH HSGETKVVS HRGKTLQDIPEDFLEMDLA KNEHRVHVQMEPV

2662	10713	A	3586	1	2472	GFVFLLLAPLSRLEFHKSRLKNVFEGL EAEFCFYKVHLDGGEELWVRPDAETT THQGRVSQEKHQALGCKWPKLCGDALC VILSAPSPIDHPKAECCRARRDWAAPP AAPVRDPLGEASWAPESGQOMKEAAEL GVSCMGPDLEKLTLYEVKLRQLQGCKAA QRPLGCTLLAIQGTLYQRIFSPLTQPELV NGKGWHLTQESLSQNGSLEFLTSEPHSP NPNEGSSRRQSLHTNANNMAFASEQFPN LPSGSGSRGFPGRARVLHDCQNCQRLT AGPAQLQGSRAANRRKALVSPSSVARE DGFAEEMVFTYGIHKTGTVFFNDLMDSF NESNSRISWIISICVFVLTFSAPLATVLSN RFGHRLVVMLGGLLVSTGMVAASFSQE VSHMYVAIGIISAIMALKERIGWRYSLLF VGLLQLNIVIFGALLRPIFIRGPASPKIVIQ ENRKEAQYMLENEKTRTSIDSIDSGVELT TSPKNVPTHNTLELEPKADMQQVLVKTS PRPSEKKAPLLDFSILKEKSFICYALFGLF ATLGGFAPSLYIIPLGISLGIDQDRAAFL STMAIAEVFGRIGAGFVLNREPIRKIYIEL ICVILLTVSLFAFTFATEFWGLMSCSIFFG FMVGTIGGLTFHCLLRMMSWAL/QKMS SAAGVYIFIQSIAGLAGPPLAGLLVDQSK IYSRAFYSACAAGMALAAVCLALVRPCK MGLCQHHSGETKVVSHRGKTLQDIPE DFLEMDLAKNEHRVHVQMEPVVRRRFA AAGPAGLGAAGDSDAFPAREGPERRAG YSGPAAACDFSTAAPKREQRGPLSLVG LEM
2663	10714	A	3587	323	1303	STLYLPAMDNTNQEIPDLLALGTSAWSS TLAALPEEPFSLPLHCGSPFLGWSRPELAP SACREVWREKPEWELGLRTVLAGQCEF RVGVGSGDSTRSSWPPLAPGNEGLSTR ASSCGGCTGSPSRAGPPVLCISQCQALAA FPRGRARGLQAPMEPPPLRGLLCSPEP PRLVPPAPGHPVPLTTQGLRSTGTHHR DWQAAPPAAPVRDPLGEASWAPESANL VGKWRFTVSSSGTANAPISTLSKQTTGL YQSAGCGWGQNLGAKYRA/LCRPVKSD *HGRQTKDTGVRLSGKGLSNP*LFRVG TVGSHRPHFTYMDGLASGV
2664	10715	A	3588	1	3552	
2665	10716	A	3589	375	646	KKSLLSINSRLQLVMKSGKYVLGVYKQT LKMIROGKAKLVILANNCPALSGNNIEL GTACGKYRVCTLAIDPGDSDIIRSMPE QTGEK
2666	10717	A	359	1	366	KKQIFLELISIYSRVAGYKNTQKSVAFLY NSNKQLNL*IK/DTMPFILAC/NK*KHLPL NLTK*VQEIYEGNYDTFMK*IED/DKQRN ISSW*KRFIKMPILPNLIYRYNAFPVKIS ESYLVDI
2667	10718	A	3590	75	335	LRILKFLSCSLSLGWGSPSLRQEDGGR KRRRKSLESINLRLQLVMKSGKLLPGG TSQTLKMIRQGKAKLVILANN/CGPALR KSEIEYYCYVWLKTGC/HHPLTVGNNE LGATA/CGKITRYVLHTGLFIDPG*LLTSF RKACPEQTC*KMVAAKEDEKSRWSRST LGSNSLWKSGLLPGGTSQTLKMIQTRQ SEMWSFSLTTGPSFEEI
2668	10719	A	3591	1	2580	
2669	10720	A	3592	1	1386	

2670	10721	A	3593	2	1419	RPPGIRAPRQLHPAAGRPPDASARPRFRP TVLLHDPFQLSFPPLSYPSVFPVAVARV LPQRSGDYRAAGMPQLSGGGGGGGGDP ELCATDEMIPFKDEGDPQREKIFAIVNP EEEGDLADIKSSLVNESEIIPASNGHEVA RQAQTSQEPYHDKAREHPDDGKHPDGG LYNKGPSYSSYSGYIMPMNMNDPYMS NGSLSPPIRPTSNKVPVVQPSHAVHPLTP LITYSDEHFSPGSHSHIPSDVNSKQGMS RHPPAPDIPTFYPLSPGGVGQITPPLGWQ GQPVYPTGGFRQYPSSLSGDTSMRFS HPMIPGPPGPHITIGIPHPAIVTPQVVKQ DHPHHSSDLMHVKPQPEQRKEQEPKRP PTKKPLNAFMLYMKEMRANVVAECTL KESAAINQILGRRWHALSREEQAKYYEL ARKERQLHMQLYPGWSARDNYGKKKK RKREKLQESASGTGPRMTAAYI
2671	10722	A	3594	59	435	STCPAPQSARVQWCNLSLQPPPTPTPR SSNSPASASQIAGUTGVRHHTQLIFVFLV GDGGFHCVGSGWVSNCWPSGWRPLWP HLFLGFHKDLEVVGFLVFASISFRSWRW DLKNSSVLTHFFK
2672	10723	A	3595	54	442	
2673	10724	A	3596	360	1023	GQGRLPERGYLEAGVYRICGRQSRHED GTHRGAQVIEQRRKWLPALGFQPIILQL CGKRVPAPSRASTGQPOASRAWSGPL/P HPQCGSDIRLRVRAEYCEHGALEQGV SRRPQALARQLDVFQATAVLRSDLG VVCDFKFSLSYLDFAFWGDYLSGALLQA LRGVFLTEALREAVGREAVRLLVSDEA DYEAGRRLLLMEEEGRRPTEAS
2674	10725	A	3597	3	370	QMYCVFNREDACRY/GS/AIGVLAFLAS AFFLVVDAYFPQISNATDRKYLVIDLLF SGVLAFLAYQRYKAGVDDFIQNYVDPT PDPNTAYASYPGASVDNYQPPFTQNAE TTEGYQPPVY
2675	10726	A	3598	1	1356	
2676	10727	A	3599	3	706	GGSGGDGDMESGAYGAAKAGGSFDL RRFLTQPVVARAVVLIVFALIVFSCIY EGYSNAHESKQMYCVFNREDACRYGS AIGVLAFLASAFVLVDAYFPQISNATD RKYLVIDLLFSALWTFWVFGFCFLT QWAVTKPKTVLVGADSVRAAITFSFSI FSWGVLASLGIYQRYKAGVDDFIQNYV DPTDPNTAYASYPGASVDNYQPPFT QNAETTEGYQPPV
2677	10728	A	36	2	424	
2678	10729	A	360	241	583	NGPPFFFFFEMEFSLLLPRLECNGAISAH RNLRLPGSSDSPASAGLL*SQVAGITRL RHHD*LILY/FLVEMRFHRVG*AGLELLT SGDPPSSASQGAGITGMSHSAGHYGKIF
2679	10730	A	3602	1	171	RILMAINGKVFDTVTKGRKFYGPVKYHH VGKLLTAGEEPAVYSDEEEKDESARK ND
2680	10731	A	3603	3	253	LSLQEFGTSFAGRDSRGLATFCLDKEA LKDEYDDLSDLTAAQETLSDWESQFTF K/LLKEGEEPTVYSDEEEKDESARKND
2681	10732	A	3604	3	701	PARHSLAQREEKVASSGSLPSAAQPLLSE IMAAEDVATGADPSDLESGLLHEIFT SPLNLLLGLCIFLLYKIVRGDQPAASG DSDDDEPPPLRLKRRDFTPAELRRFDG VQDPAPYSWAINGKVFDVTKGRKFLT GPEGPYGVFAGRKCIQALPTFLLDKEA LKDEYDDLSDLTAAQETLSDWESQF TFKYHHVGKLLKEGEEPTVYSDEEEKD ESARKND

2682	10733	A	3605	3	678	KRLPKMAEVQVLVLADGRAHSSLGRLA/ AIVAKIQVLLGRKVVVVVARCEGINISGNF YRWKLLKYLGFPPPSGMNTNPSRGYPYHF GWAPSRILLAGTVRGMPLPHKTKAEAKAA LDRLAKVFDGIPPPYGQEKSGMVVPA LKVVRULKPTRKFCLIWGRLAPEVGWVK YQAVTATLEEKRKREKPRFHYRKKENSI MRLARKQAREETWRKKIDKYTEVLKTHG LLV
2683	10734	A	3606	114	353	
2684	10735	A	3607	104	342	
2685	10736	A	3608	211	241	NFNGRGGLAAGRKKPDWLDSTLNS*PS H
2686	10737	A	3609	37	116	
2687	10738	A	361	654	942	CHACNPQHFRPRQVDHLRSGV*DQPG QHGETPSLLKNQKLAGEHGGVHL*S*LLR RLRQENRLNLGGGGCSEPRSHHCTPAW VTE*DSVSRRKKKK
2688	10739	A	3610	104	516	ALSSRGVMAEYGTLLQDLTNNITLEDLE QLKSAFKEADIPSEKSEEITGSAWFSFLE SHNKLDKDNLSYIEHIFEISRRPDLLTMV VDYRTRVLKISEDELDTKLTRIPSAKKY KDIIRLPSEEEIKLAPPPKKA
2689	10740	A	3611	569	838	PTVLWEPPSFPPPPQGIPIHSG/PDTLTGR RRASPSGLCYSENGGLEEGSTRPPAH/S PGATVSSPPPPPPSSSLPCCLGNRHFD RV
2690	10741	A	3612	268	356	
2691	10742	A	3613	489	605	QLQVCYCT*RPYSGTRCGVSNVQLLCS LLSHLCCSAS
2692	10743	A	3614	391	561	
2693	10744	A	3615	367	855	GARRQAHTMALKRINKELSDLARDPPA QCSAIGPVGDDMFHWKATINGDLMDK PIFKGGVFFLTIFPPTDYPFKTPKVAFT TRIHYPNINSNGSICLDILRSQWSPALTIS KVLLSICSLACDPNPDDPLVPEIARVY KTDRDKYNRISREWTKQYAM
2694	10745	A	3616	1002	1480	MLLLKTTERFEVSVCMACTYVSNLGGK QRSVSFLASGLMRVSTGPELRLHHSFVL TGDVGRRICRLVLGLFTKGDTSKRVAHP FSPGPACFLLCDLARVGSPPKINRVPHFT RTQTSTQRSCTVFVWQRCSLVGPFQVTV FTMYFHHSLSRSIRFSSG
2695	10746	A	3617	223	415	
2696	10747	A	3618	1	858	
2697	10748	A	3619	144	1339	DPEQPDMEQPWPPPGPWSLPRAEGEAE ESDFDVFPSSPRCQLPGGGAQMYSHGIE LACQKQKEFKSVACKWNLAEAQKQL GSLALHNSESLDQEHAKAQTSIRTEGN GKKNRQKEEALRQREKMLCWSTDAI SKDVFNKSFNQDKRKDEDEKSEFSM QKYEQKIRHFGMLSRWDDSQRFLSDHP YLVCEETAKYLILWCFHLEAEKKGALM EQIAHQAVVMQFIMEMAKNCNVDPGRC FRLFFQKAKAE EEGYFAFKNELEAFKS RVRLYSQSQSFPMTVQNHVPHSGVGS GLLESLQNPDLQYSISTALCSLNSVVH KEDDEPKMMGHCIWVKTA EAKCYFVT GKGGTWAIFLDTFMGLALYFCSVFDG RERV LKCFVNFF
2698	10749	A	362	1	2322	
2699	10750	A	3623	44	420	
2700	10751	A	3624	20	421	
2701	10752	A	3625	1	346	LRPQSAQSSFPSPGSPDVQLATLAQRV KEVLPHVPLGVIQRDLAKTGCVDLTITN LLEGAVAFMPEDITKGTQSLPTASAKF/ PRQESLQERKQALY EYARRRFTERRAQE

					AY
2702	10753	A	3626	162	461
2703	10754	A	3627	39	260
					DCKPVARPSTKAKTDQSGPFLSLLPHRY LSLSLTLRSSPESMTWCWMEGREKESA SQ*VTTTFRASMSSYTA
2704	10755	A	3628	1	2160
					FRPGAPEAAVMELSSWGPRLFDHSHRL PGDCFLLLVLLLYAPVGFCLLVRLFLGI HVFLVSCALPDSVLRFRVVRTMCAVLGL VARQEDSGLRDHSVRVLISNHVTPFDHN IVNLLTTCSTVSESEADSATVRFGAQLK APLSPLAFPMEDTEALPTPILYPTCQFFF FIFLNIFLLAFSSPGSQPLLNKSPQAFVC WSRGFMEMNGRGEVLSLKRFCSTR LPPTPLLLFPEKKATNGREGLRFSSWPF SIQDVVQPLTLQVQRPLVS/VGECVLNRE SLGLEGEISHPWWRPHLMPSPQTVSD ASWVSELLWSLFPFTVYQLVAKELGQT GTRLTPADKAEHMKRQRHRLRPQSAQ SSFPSPGSPDVQ/IWATLAQRVKEVLP H/VGPLGVIQDLGMGKGPTLGDGHRE EKWVVKETKTGCVDLTITNLEGAVAF MPEDITKGTQSLPTASASKFPSSGPVTPQ PTALTFAKSSWARQESLQERKQALYEYA RRTFPQVTRSHIISTALEDPCLSKISTTCQ RGNSLRSCQRATMTSQPLRLAEYGPSP GESELAVNPFGLPFSSRYELLKQRQA LPIWAARFTLEQLESNPTGVVLVSGEFG SGKSTQIPQWCAEFALARGFQKQGVTVT QPYPLAARSLALRVADMDLTGHEVG YSIPQEDCTGPNILLRFCWDRLLLQEVA STRGPGKLGRAGTR
2705	10756	A	363	8453	9757
					APCLLGWSLPSRAKTYAYLFSHPSRMP VYPKWVGADHADDIYVFGKPFATPTG YRPQDRTVSKAMIAWTFNFAKTG*DVG *VQGGGQPRRASHHEALFPHLPVEGLW ASHLTSPCIGIHVCLRMVTRGRAPSPCTC TASAQYAVRGMVPRASSEGGDGSQVQV ESRASAPWESPAPAQPLLTQDPNMGD SAVPTHWEPTYTENGYLEITKKMGSS MKRSLRTNFLRYWTLTYLALPTVTDQE ATPVPTGDSEATPVPTGDSETAPVPPT GDSGAPPVPPTGDSGAPPVPPTGDSGAPP VPPTGDSGAPPVPPTGDSGAPPVPPTGDS GAPPVPPTGDSGAPPVPPTGDAGPPVPP TGDSGAPPVPPTGDSGAPPVPTPTGDSETA PVPPTGDSGAPPVPPTGDSEAPVPPTDD SKEAQMPAVIRF
2706	10757	C	3631	44	340
					MKCSQPXRCHFQSDFOKCAPCPRAQTH WLEPPGRVQTISSMRNAQKGFADSIRLW RLPASGVGWVVSPEGAGDPSHLLDPPGH SAPYSPAPRQLSRVP*
2707	10758	C	3632	2037	2426
					MKCSQPXRCHFQSDFOKCAPCPRAQTH WLEPPGRVQTISSMRNAQKGFADSIRLW RLPASGVGWVVSPIQTQEVAPEGMYLV GSSSGTLGGCRALTQVFLSSLGCVCA CACACLCFSLWAHQDVSS*
2708	10759	A	3633	184	9818
					IEEPRDTRLQVCSGVHIWCLDKFKMRKH RHLPLVAVFCLFLSGFPTTHAQQQQADV KNGAAADHFLVDSSWTIGEEHFQLVREF LYDVVKSLAVGENDFHFALVQFNGNPH TEFLNTYRTKQEVLSHISNMSYIGGTNQ TGKLEYIMQSHLTKAAGSRAGDGVPO VIVVLTGDHSGDGLALPSAELKSADNVV FAIGVEDADEGALKEIASEPLNMHMFNL ENFTSLHDIVGNLVSCVHSSVSPERAGDT E

2709	10760	A	3637	312	805	GPQAGSSPEILLPEDNSLIRWAGAGCHTQ DSATTVTASWAPLCAGAGREEDGTPCV CLGRSARPKLVFGRPLRTSAALRPGACIP HGLLCYPREPVDFRPGSGRAWPPRSPSP/ CQDPRPSRSAPGSEPGW/CPDPPAPPRLV TLGRASPHLTLPRAAAPPPCRWRP
2710	10761	B	3639	199	286	XSELESALQMEPAAFQALYSAEKPLED EHLVFFCQMKGRLQAHAAAGPESWIHW GSQLRWSL*
2711	10762	A	364	10	548	FRLVLSRLEGIGAILAH*NLCLLGSNDSP ASATRVAGITGRHHAPLIFVFLVEMGF RHVGQAGHKLLISGDPPA/SASQSAGITG VSH/ARLAALSNF*GLGQVPTLKQATLL SLLDTSPLPAIFFLFFF*DRFS/SVTQAEV QWGDHCSLHP*PTGLKDPPASARLGTT RTRHHSR
2712	10763	A	3640	754	1082	GMVHICCLGAPRTQPFQAQLPNLSAKLL AFPSTLSTPPVSELESALQMDQPAFQAL YSAEKPKEDEHLVFFCQMKGRLQAT QLARSLGYTGARNYAGAYREWLEKES
2713	10764	A	3641	113	737	AGPDSFCNFSVCPSSSTAWILVLAQFLL SPTLLSPRMLTVALLALLCASASGNAIQ ARSSSYSGEYGSGGGKRFSHSGNQLDGP ITALRVRVNTYYIVGLQVRYGKVWSDY VGGRNGDLEEIHLHPGESVIQVSGKYKW YLKEAGYLVPTKGPFLSFGKSKGPSFN AVPLHPNTVVRFISGRSGSLIDAIGLHWG CFHTHTCSRC
2714	10765	A	3642	1724	1818	
2715	10766	A	3643	1	894	RGESRVLWSELEGEAGGAGGWASSLNA RMDNRFATAFVIACVLSLISTIYMEGVSIG TDFWYEYRSPGQENSSDLNKSIDEFIS DEADDATYNDAFLRYNGTVGFLRRVY SPYPKTLHWVLAHHERTESFDVVTKICV SFTLATEQFMEKFVDPGK/HTNSRGLDLL RTYLWRCQFLLPFVSLGFDVLWGALIG LCAICICRSLYPSIATGILHLLAGLCTLGS VSCYVAGIELLHQKLELPDNVSGEFGWS FCLACVSAPLQFMASALFIWAAHTNRK EYTLMKAYRVGMSKKPACF
2716	10767	A	3644	323	898	
2717	10768	A	3645	816	1171	LFKHFVGPVANWGLPIAAINDMKKSPG DYSVGRMTFALC/CYSILTFMEILPYKVQ PSGTWASCFACHGTNEVRPSFIQEGRLI PNTRMDLKRASGINQWKGKKNKVFEGD SLCPGCC
2718	10769	A	3646	205	369	
2719	10770	A	3647	3	451	CSGAGAEPAAANPRSPRSLVPSLESTSTSV PPAPGTMATDSWALAVDEQEAASG AVVKTNANAECTDEEEKEDRAAQSLN KLIRSNLVDNTNQVEVLQRPNSPLYSG KSFEELRLKPQLLQGVYAMGFNQPSKIQ ENALPLMLAEPY
2720	10771	A	3648	1	186	
2721	10772	A	3649	2	261	SSANNISILGAFRSVTKWLS*THPL*FFCQ CLCLSPTYELALQTGKVIEQMGKFYPEL KLAYAVRGNKCEYGRRQLNSEQGRGLG V
2722	10773	A	365	252	934	LCASRLPLPAPMLSLSHRISHPWPVGVH YGC*GGRSGDIGSCRETGLCRGFSPGCI KTSTSPWAPAG*APSTGPGQETCTAHS PFIPAPA*AQGLKF*GVTESICAGAAGTA GGTETAVSAGSPAGQAQPGPGAGQSLSA GSQMA*GSDHPGPIWQTC*SVQGAFALD G*GG*LHPHPP*GPATLPEGGGGVCFAA KNASGATREVPVAVLQAVHAPGATWLRP P
2723	10774	A	3650	1	2613	

2724	10775	A	3651	3	550	LCSSR/DEKFKALCNLPG/AITMAQAMIF CHTRKTAISWLAELSKEGHQVALLSGE MMVEQRAAVIERFREGKEKVLVTNVC ARGEQRTCTWSARLGVPGPIRARNPCI QGSRMVSGRWGLVTLFLSRDCLDFP EVVRTHTCQVRWLMPIPRQENCLNPG DRGCSEPRMCYSTPSWVTE
2725	10776	A	3652	1	1571	CRGAGAEPANPRSPRSLVPSLEYTSTSV PPAPGTMATDSWAILAVDEQEAAAESLS NLHLKEEKIKPDTNGAIVVKTANAEKT DEEEKEDRAAQSLNKLIRSNLVNTNQ VEVLQRPNSPLYSVKSFEELWLKQPLS QGVYAMGFNRPSKIQENALPLMLAEPPO NLIAQSQSGTGKTSPLVLAMLSRVEPI RPDTPQCLCLFPTYEAGGFKQKGVIEQM GKFYPELKLAYAVRGNKLERGQKISEQI VIGTPGT/VGLNWCFQLKFIDPKKIKVFI LDEADVMIATQGHQDQSIRIQRMPLRNC QMLLFSATFEDSVWKFQKVVPDPNVIK LKREEETLDTIKQYYVLCSSRDEKFAQAL CNLYGAITIAQAMIFCHTRKTASWLAEE LSKEGHQVVMVLSGEMMVEQRAAVIERF REGKEKVLVT/TPNLCSRGIDVDQVSVVI NFDLPVDKDIGNPDNETYLHRIQRTARF GKRGGLAVNMVDSKHSNMILNRIQEH FNKKIERLDTDDLDEIEEN
2726	10777	A	3653	3	421	
2727	10778	A	3654	209	435	
2728	10779	A	3655	126	775	APAKVRTAQEDRDTFSSQRTRWKEQNTI DNMALLGPKGLLFLAAFIITSDWIPLGV NSQVRGDDVTQATPETFTEDPNLVNDPA ATDETVLAVLADIAPSTDDLAASLEKNT TAECWDEKFTCTRLYSASGPNQMH FIQLCFHPVLRMYIVQPREICSSVLVC KGTPKPMKDELCRQMAGLPPLGRLRRP QLLPDFPPCENVDLQRPNGL
2729	10780	A	366	169	457	SLEVS LGDHFQKCRFLEKRERFWKGMFS FCSMAVSGFLAAGAGLKPRSG/WH*VFH SPRRSWTENFKFQRDEVSASPLGAWRAL TKEKGGAQPLEGL
2730	10781	C	3660	162	425	MVGPSLHAGXXXVYIPRFLYIRSWLPCIF FSGGVTVGNIGRQLAMGVPEKPIVIESSK PXILEXGRFLEENLXLVDYXKGLSFFLK *
2731	10782	A	3661	89	308	
2732	10783	A	3662	2	454	
2733	10784	A	3663	570	1418	PMPLRHDHFWSCSAHSARRRGPPRAIA AGLAAKVGEMIIIVFVSGPSLMAVLSASD ADPAPRGRSAVKS GPYPGSPYPNTWHHS LMQKSLVLSVGEVLALVNLQIQRV TLFPEEVIATIFSSAWVPPICCGTAPAD VGLLYPCIDSHLGEPHKFKERMGOVSMR CIAVFVGINHASAKLDFANNVQLSLTLA ALSGLWWTFDRSRSGLGLGNTIAFLAT LUTQFLVYNGVYQYTSDFLYIRSWLPCA IFFSGSVTVGNIGRQLGYGVFLEKPHSD
2734	10785	A	3664	195	462	RIFSMTSGRLRWCTWRPATALWSASLR LGTSSMHPSPRSISLP/PVHVHTHNSGKE VLGLQVQSRSGTGPAQSAGSGAVQG GNWCIF
2735	10786	A	3665	12102	12327	
2736	10787	A	3666	535	992	RIFSMTSGRLRWCTWRPATALWSASLR RLGTSSMHPSPRSISLPLSMMLSPLPS NTRGLSPTALVRSPNSEHATSCPRLHL WRCRAPLRSPSPLGRPLGATPGVPVSHVH THNSGKEVLGLQVQSRSGTGPAQSQA GSGAVQGGNWCIF
2737	10788	A	3669	76	419	

2738	10789	A	367	186	370	QIRETS GTGT*YTSASQSAGIEVSHHAR QMFQFYSQKYTLNCKL*ILMFKIKFFL TQK
2739	10790	A	3670	71	350	AFIPAMAELIQKKLQGEVEKYQQLOKDL SKSMSGRQKLEAQLTENNIVKEKRYES QLRDLERQSEQQRETLAQLQQEFQRAQA AKAGAPGKA
2740	10791	A	3671	334	1191	GLLPHLGPRVQRLPRLSLSTLACGLTRGP HPFLLPOIHIHLTRIVGIGGTFDVS KL PFL SSPDLSKMSGRQKLEAQLTEYNIAKEV RDWDLWGEEGPVLAMVLITYVPSLHQE LALLDGSNVVFKLLGPVLVKQELGEARA TVGKRLDYITAEM*VFIPPPCAAPCDASE PLE*RC*TIAEQLSIVAPSPVPPTLSFPF*P PFFSLPWISRFSTYLFALFSTLHSESY*FLP FCLSPSLSKRYESQLRDLERQSEQQRE TLAQLQQEFQRAQA AKAGAPGKA
2741	10792	A	3672	210	617	AFIPAMAELIQKKLQGEVEKYQQLOKD LSKMSGRQKLEAQLTENNIVKEELALL DGSNVVFKLLGPVLVKQELGEARATV GKRLDYITAEIKRYESQLRDLERQSEQQR ETLAQLQQEFQRAQA AKAGAPGKA
2742	10793	A	3673	3	266	
2743	10794	A	3674	31	500	ARVTA AVSAAVAKRVWRDGFDCSGY YSLTILLVQPTKRPAEGRTYADYESVNE CMEGVCKMYEEHLKRMNPNPGPSI/TH NTTSQFLDFIDDLADLSCLVYRADTQT YQPYNKDWIKDEPTVLLSSGKAQQA REIIVVGS HWGGWGGAWDTGV
2744	10795	A	3678	1	134	
2745	10796	A	3679	162	437	RRGLFPAGPGPRQEPSRASSPMPSELRN IKD/FLLTARRKDAKS/VKIKKNKDNVVK FKVRCRSLHPWSSPDKEKAELKQKS LPPRF GK
2746	10797	A	368	150	799	QC*DPETSETV*EKL RAGRHQRCHGGQ SCFDKSATRALPPPRKWRHRGTRCAATK RTRLGEMAVLGP*E*RQPEEPRTTSILA EPTVLSRRKCRPSEKRGSA TEKFGATSA VTENPPLGAAGERANKTL/RCCHRD TDF RTPASDGERRRSHTEGPINRSLAMRMGK GGSIGTENRADWAGPGCKVCESCS/RVL HLCVYGSHHRIWHMEGYQHMLV
2747	10798	A	3680	60	216	
2748	10799	A	3681	505	794	NVVECLFKDALPQLSADRFLASSILLGDL GVEEVHFSVSNLTGEELWHLLRSTSLGI ASPPHIEVPFLEVDGDRTKTQVFPLTNLH VRAHASAHAS
2749	10800	A	3682	685	1484	LRLTFPEFSHTKVRTMSLFPSP LLLL SM VAASYSETVTCEDAQKTCPAVIACSSPGI NGFPGKDRDGTGKEKGEPGQGLRGLO GPPGKLGPNGNPGSPGPKGQKGDGP KSPDGDSSQAASERKALQTEMARIKKW LTFSLGKQVGNKFFLTNGEIMTFEKVKA LCVKFQASVATPRNAAENGAIQNLKEE AFLGMPDEKTEGQFVDLTGNRLTYTNW NEGEPNNAGSDEDCVLALLKNGQWND SPCISTSHLAVCEFP
2750	10801	A	3683	427	751	
2751	10802	A	3684	31	558	EFVPHSEKMLYDQAQLAVAYLYAFQLS GDEFYSDVAKGILQYVARSLSHRSGGFY SAEDADSPPERGQRPKEGAYYVWTVKE VQQLPEPVLGATEPLTSGQLMKHYCL TEAGNISQDPKGETCRARMLDRPVL RWELTAARFGLDV/EKAVRTLLNTGLEK LFQARKHRPKP



2752	10803	A	3685	3	399	KCVCLLTAFSERMRRVPVALPEMVRALS AQQQTLKQIV/VWRPSSGQRTPKALVQC VHSVYIPNKVLILADGDPSSFLSRQLPFLS TLRRLLEDQATAYVCENQACSVPTDPCE LRKLLHPLTCPYPLGWGR
2753	10804	A	3686	2	2238	NVAAMLGARAWLVRVLLLPRAGAGLA ASRRGSSSRDKDRSATVSSSVMPAGGK GSHPSSTPQRPVNRILIHEKSPYLLQHAYN PVDWYPWQEAFFDKARKENKPIFLSVG YSTCHWCHMMEEESFQNEEIGRLSEDF VSVKVDREERPDVDKVMYTFVQATSSG GGWPMNVWLTPNLQPCVGGTYFPED GLTRVGFRVLLRIREQWKQKNLTLEN SQRVTTALLARSEISVGDRQLPPSAATVN NRCFQQLDEGYDEEYGGFAEAPKFPTPV ILSFLFSYWLHRLTQDGSRAQQMALHT LKMMANGGIRDHVGQGFHRYSTRQW HVPHEKMLYDQAQLAVAYSQAFQLSG DEFYSDVAKGILQYVARSLSHRSGGFYS AEDADSPPERGQRPKEGAYYVWTVKEV QQLLEPVLGATEPLTSGQLMKHYGLT EAGNISPSQACELADKGHSPQDPKELQ GQNVLTVRYSLELTAARFGLDVEAVRTL LNSGLEKLFQARKHRPKPHLDSKMLAA WNGLMVSGYAVTGAVLGPRLQNYAT NGAKFLKRHMFDVASGRLDADLLHRH LGGLWSTATPPCWGFLEDYAFVVRGLL DLYEASQESAWLEWALRLQDTQDRLFW DSQGGGYFCSEADWGAGLPLRLKDAQ DEAEPSANSVSAHNLLRLHGFTGHKDW MDKCVCLLTAFSERMRRVPVALPEMVR ALSAQQQTLKQIVICGDRQAKDTKALGA VRPLCLHS
2754	10805	A	3687	5	188	
2755	10806	A	3688	132	341	GFTSFISRLSCLSFCLLLET/CPVTCWCWE APRCNQKCTDPAARRDPQTCASQDRLR CAPCTCHQPLASR
2756	10807	C	3689	4	204	MCFQRKSYFHIQTLYCPLICISALRYSTG PAPAMWKCHTAPVQKDWLTPITLISS PNFLTINL*
2757	10808	A	369	1200	1678	RYKLLSYRKPETAIEQKENIPFQNLRSFS KNLHFWK*SPKETSRLYHECLQLNSSCLI LTLAYPVQII/CHLFLDEPGRMSDQRRQA NVPEMGFHHVGG/ACLNLSTSDRPASAS QSARIEVSHHARQMFQFYSQKYTLNCP CKL*ILMFKIKFFLTQKQN
2758	10809	C	3690	57	209	MEVXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXGRLLFGPL*
2759	10810	A	3691	363	424	
2760	10811	A	3692	2	264	KFSLIKLRKENFPTARICRLVYPLYPLKIF IFPKALNFCREVGPIPPPKK\GSFPKIPKV AFNRPLRKKIIPSQPALNWGP RPV
2761	10812	A	3695	2	201	GRVGSQSCQRRQQGDTKRRRLSSYPWR RRQRWRRRR\TSSRRKPQFLRQRQRPRQ ARRRWRATRFA
2762	10813	A	3696	31	445	EKAVVTSAASSLVYTVYTAQAPRPSFHP FCSTWSAKEPNTTAGEGGSTNECQLSA /CPGANCPGLGTLKSPQNCPSLPRPPLP ACRGSYESVWARLLQSVHAIQRRRES WSPKLYWVHPPQEVVGAFTFLFLV
2763	10814	A	3697	73	404	AYSRTSSLSTMNQTAILICLIFLTLGI QGVPLSRTVRCTCISISNQPVNPRSLEKL EHPASQFCPRVEIATMKKKGEKRCCLNP ESKAIKNLLKAVSKERSKRSP
2764	10815	C	3699	250	495	
2765	10816	B	37	44	307	MVAVSCRQRPTSRPAWGKVGAVHVR MCAEALERMFLSFPTTKTYFPHFDLSHG FCPGLRATGKKVADALTNVAHVGRHA

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2766	10817	A	370	1	1107	MTLEATHLLLRVLLVLLASGGSLSFQSP VKSILGVAVTVVLLLLLALLINRYLQK ARGRARKPYTEDVSVDKKTETWEWAR GEGESYHVYDDVQKEKTTDRMIRSSSM CVHKINTSVSMCAQETPNSSKKAKLGQK IPVQGKDEILHKALCFCPWLKGKGMPL RLILLLFVTELSGAHNTTVFQGVAGQSL QVSCPYSMKHWGRRKAWCRQLGEKG PCQRVVSSTTCGLLSFLRRWNWEHSHS QTIPWGGTLTITLRNLQPHDAGLYQCQS LHGSEADTLRKVLVEVLADPLDHRDAG DLWFGDRLRASRMPMWSTASPLRAR EGR*WEEKPRRSPTRDQPSLHTCHLATR TPCSALARDYSA
2767	10818	A	3700	226	854	RVPGLNMSGIALSRLAQERKAWRKDH PFGFVAVPTKNPDGTMNLMNWECAIPG KKGTPWEGGLFKLRMLFKDEYPSPPKC KFGPPLFPNCVTSGASCLSFLEEDKDW RPAITIKQILLGIQELLNEPNIQDPAQAEA YTIYCQNRVEYEKRVRAQAKKFAPSCRS SLEPSRTWAVLLLSLRPQVSVLRHFLC VYMAFCLCCCLE
2768	10819	A	3701	813	1637	TCQGIALSRLAQEYKAWRKDHPFGYN AVPTKNPDGTMNLMNWECAIPGKKGT PWEGGLFKLRMLFKDDYPSPPKCKFE PPLFSPRIVYPSGAKCACPSLEEDQRTW RPSPTIQTFRLLRNRYNFKWPNNIQDP SFQAEAITYIYCQNRV/ESYEKRVSTKP RKFCAPHKQRPCGNRQKERDWFQELV YNIFCKSKVCSHTMTSHLGGVGRAPSSH CPPRGVRSRIRLNCVSIQGSFLRCFCIF GLLCKTRLFILMSSISTAVKL
2769	10820	B	3702	236	362	KQEPQIPCQGGKDAAVLQGSQPSLAGIR TTRLRDPSKKWPKGX*
2770	10821	A	3703	1	808	TPPFLAMAPALLIPAALASFILAFGTGV EFVRFTSLRPLGGIPESGGPDARQGWL AALQDRSILAPLAWDLGLLLLFVGQHS MAAERVKAWSRYFGVLQRSLYVACTA LALQLVMRYWEPIPKGPVLWEARAEPW ATWVPLLCFVLHVISWLLIFSIFLVDYA ELMGLKQVYYHVLGLGEPLALKSPRAL RLFSHLRHPVCVELLTVLWVPTLGTDR LLAFLTLVGLAHGLDQDLRYLRA QLQRKLHLLSRPDGEAE
2771	10822	A	3704	221	1728	GQAGCSDTMGSCCCLNRDSVPDNHPT KFKVTNVDEGVELGSGVMELTQSELV LHLHRREAVRWPYLCLRRYGYSNLF ESGRRCTGHGIFAFKCSRAEIEFNLLQD LMQCNSINVMEEPVIITRNSHPAELDPR APQPPNALGYNVSSFSNGCPGEGPRFSA PQRLSTSSLRHPSLGEESTHALIAPDEQS HTYVNTPASEDDHRRGRHCLQPLPEGQ APFLPQARGPDQRDPQVFLQPGQVKFVL GPTPARRHMKVCQGLCPSLHDPHHNN NNEAPSECPAQPKCTYENVTGGLWRGA GWRLSPEEPGWNGLAHRAALLHYENL PPLPPVWESQAQQLGGEAGDDGDSRDG LTPSSNGFPDGEEDETPLQKPTSTRAAIR SHGSFPVPLTRRRGSPRVFNDFRRPGPE PPRQLNYIQVKLKGWGGDRPKGPQNPS SPQAPMPTTHPARSSDSYAVIDLKKTVA MSNLQALPRDDGTARKTRHNSTDLPL

2772	10823	A	3705	1143	1849	PAILSPNLDDLNFVSVRASVPTLAPSAPSA SSSPARIPAATRQGRRSPRIPPAPSNEASP APGRPRVPGAA\PPRFPKPTIQASGADRA VDCGILKLQKSPARLARPRWPRRPSKRF WSAAGSVEEQPKPPKAP/PAKSPEQSPQL SVLPLATITPQAYGASFEKMNKLKTRRG GRSRWHFFPNVIPQAPSLKWGFQTS SAEVFHVDRSLASHKMGPGRPRPSPLW APFFWNPRH
2773	10824	A	3706	130	360	SLPKKKNPDLHGFGVGFYQTFKEKIPASS SSNKF/PQDIYEASITL/TPKPDQDFRKKEN CSSVSLIIFPEINKILEN
2774	10825	A	3707	46	292	DQASSNGVMTIARRNPDTLRLFLPDEAR SLPPPCLTDPRLLYIGFLGYCSGLIDNVI RRRIATADKKTYGEIFEKHFPIR
2775	10826	A	3708	269	476	STCLGLPRCWNRYRREQRLVYM*FVHL YYF
2776	10827	A	3709	448	894	DQASSNGVMTIARRNPEPLRFLPDEAR SLPPPCLTDPRLLYIGFLGYCSGLIDNVIR RRPIATAGLHRQLLYINGLFLLGYL VKREDYLYAVRDREMFYGNLHPEDF FLKEDKKTGEIFLKNSHPHTLKVLQKC LAPSFH
2777	10828	A	371	2	1309	EQQDLQDPLEVFHPTVEAAEALHIQEP GGEPSQPTQLPGGAPNTRPPHOGALWS V*RAPEQELHQDGRQPTG*QWLRTCSLG WPEAQLPAHLIGQADWPSQRPP*DPE*TP PRPQQNPGPSNWRCTFATPSTGWA*AT TQIRMIENGKPELPGPPSGEVPLGQQQVG PGVPSGFPQPAPPGLILHSNNIHSQGV FNEFLFPWGFGEAGPYNGHSASSTTP CPTGRCKPATFRRRH*PPGHPVWATTKS RGM/TAATAGPQWGLGNTARHPDGEA EPGS*ARAQLASNPAPHLRVP*PQLRLPH SPPFPWVPKGRWTQRPEGMTCYAWAH ELRPALPPQPPRGTP*SFFLVHSPACPAQ ALPPNLYCPGGGWEVEAQHPAQMTVPF LEAPHFWPTGG*VSPYPSGPAQGGGAAS EVGGCLSIKETPCNV
2778	10829	A	3714	1	948	
2779	10830	A	3715	644	2034	AIETQAITDNCSEERKTFNLNVQMNSMD IRCSDIHQDGTQGPSVIAFISYSSLGNIINA TFFEEMDKKQVYLSQVVSAAIGPKR NVSLSKSVTLTFQHVKMTPTKKVFCVY WKSTGAG/CSQWSRDGCFLIHVNKSH MCNCSHLSSFAVLMAITSQEEDPVLTVI TYVGLSVSLCLLALALTLFLCKAIQNT STSLHLQLSLCLFLAHLFLVAIDQTGHK VLCIIAGTLHYLYLATLTWMLLEALYL FLTARNLTVVNYSSINRFMKLMFPVGY GVPVAVTVAISAASRPHLYGTADRCWLH LDQGFMSWFLGPVCAIFSANLVFILVF WILKRKLSSLNSEVSTIQNTRMLAFKAT AQLFILGCTWCLGLLQVGPAQVMAYL FTIINSLQGFIFLVYCL/LSAQQVQKQY QKWFREIVKSKSESETYTLSSKMGPDSK PSEGDFVPRTSEEKIL
2780	10831	A	3716	1	451	FFFFFVRQDLALSPRLECNGIIFAHCNLC LPDSSDPPATSAFQVARTTGRNYYAQLNL YFFVETEFAMLTRAGLNLSSRGPLASA SQSVG DYRN SHHAQLIFCIGRDRIVSL WCPEWSQTPEFKRSACLPCWDYRGEP PHPVPSAL
2781	10832	A	3717	1	5898	
2782	10833	A	3718	1	333	

2783	10834	A	3719	1	5699	VNDNTNTAGSPGEVLSRRRCVNLKLTALR PDMWPKSELKLQWFDKLLMTVEQPNQV NYGNICTGLEVL SFLTTLVQSPAILSSFKP LQRGIAACMTCGNTKVLRAVHSLLSRL MSIFPTEPSTSSVASKYEELECLYAAVVK VIYEGLTNYEKATNANPSQLFGDQGSW VTLAPGTLMLKSACSNPSYIDRLISVF MRS LQKMVREHLNPQAASGSTEATSGT SELVMLSLELVKTRLAVMSMEMRKNFI QAIL
2784	10835	A	372	475	928	NLVACSLPISPETLSPVPLTPKPSGLLALS LGLAFLSCPGLATPSPLTPKPGTAGPPQ PCPCSG LAPQTLYL SRRRLGGWRPSIPAQ MTPINRPESQTPVFLEAPHWPTGG*VS PYPSGPAQGGAAASEVGGCLSIKETPCNV KKKKKK
2785	10836	A	3720	109	11749	ARRGERRLVELMDPILFSGEANQPKRKM AFVATQGATEVDQTTLMKKYLQFVAAL TDVNTPDETKLMMHEVSENFENGTSPP QYSTFLEHIIIPRVLTFLODGEVQLQEK AQQLRKLVEIIHRIPTNEHLRPHTKNVL SVMFRFLETENEENVLICRIIHELHKQFR PPITQEIHHFLDFVKQIYKELPKVVRNYF ENPQVIPENTVPPPEMVGMITTIAVKVNP EREDSETRTHSIIPRGSLSLKVLAEAL
2786	10837	A	3721	106	11708	
2787	10838	A	3722	2	581	RRFERRMPRPHEVYTPPLVLQPLSLVSP WKSSQHIFARVLNTNIDGRRKNSPLPITA HLRVWARRYAHVVLRKADIDLTKRAG ELTVEDEV E RVIT/ISMQNPRQYKDPKTG FFEQDKKDVKDWKITARVLAQVWWTTS SRERPGSRLEERFRAHKKGLARHFLGGLS CSEGOAHPRTWPAVGRHRGASAGARR
2788	10839	A	3723	6	297	GIRPRKREQAASEADKGPKEPLEYGA KLSFQSCCEGKAFQRHDLARHRSHLH LKDKARPFQCRYCVKSFTQNYDLLRHE RLHMKRRSKQALNSY
2789	10840	A	3724	201	403	
2790	10841	C	3725	78	422	
2791	10842	A	3726	591	966	EVLVTMALTRPSAASSKPQSPSPWQCPL DSSHWPPSVAHLPTSYSGREYGDKHTLSK RELKELIQKGAPPLASKLODAEIARL M EDLDRNKDQAEVNFPRKYVTFPGGAF ESTIEGLKRVEK
2792	10843	A	3728	165	828	KEKARGRPKPLLLL PITSATTAMGLTISS LFSRLFGKKQMRILMVGLDAAGKAITL YKLKLG EIVTTIPATIGFVKTIGYRNICF HSMGMLGGPDRIRPLWKHYFQNTQGLI FVVDSNDRERIQEVADELHKMLLVDEL RDPVLLLFANKQDLPNAMAISEMTDK LWLQSLRNRTWYVQATCATQGTGLYEG LDWLSNELSKQLNEIGYLTQGPWFG
2793	10844	A	3729	191	1574	GVS RQDLTRLFGFSSPQPLKKKLD AWLS EDMNYARFITAASARRNPSPIRTMTDILS RGPKSMISLAGGLPNPNMFPKTAVITVE NGKTIQFGEEMMKRALQYSPSAGIPELL SWALKQLQIKLHNPTTIHYPPSQGMDLC VTSQSQQGLCKVFEMIINPGDNVLLDEP AYSGTLQSLHPLGCNIINVASDESGIVPD SLRDILSRWKPEDAKNPQKNTPKFLYYC FQMGNNPTGNSLTSEKKEIYELARKYD FLIIEDDPYYFLQFNKFRVPTFLSMDVDG RVIRADSFSKIISSGLRIGFLTGPKPLIERV ILHIQVSTLHPSTFNQLMISQLLHEWGEE GFMAHVDRVIDFYSNQKDAILAAADKW LTGLAEWHVPAAGMFLWIKVKGINVK VELIERKRPLKMGVLMPLGN AFLRRIAQ LPSPYLRASFSSASPEQMDVAFQVLAQ LIKESL

2794	10845	A	373	2	643	PICLFSRPTLRPSRSKVSLEIEGRGANMAA RWRFWCVSVTMVVALLIVCDVPSASAQ RKKEMVLSEKVSQLEWTKRPIVIRM NGDKFRRLVKAPPARNYSVIVMFTAILQ LHRQICVVCQADEEFQILANSWRYVS SAFTNKDIFFAMVDFDEGS/DMYFQML KH*ISAPNFPSTFLQKGKPKRGWDTYELQ VRGFFQLRQISPWIADRTDVQY
2795	10846	A	3730	2	454	RSFFFFCEVGSWVGSMRVVMARLLSEG EQCIPTACAAFAQQPGRRRLAGVGE GGPQCSWVNYRCTLEFLVSLGTDLAR GRGNSATGPATAPADSKQLSCKTFIAVLS LSKEAGFCNVVQGWVSTSWGSSSPVPO FFPKLLEFTGQ
2796	10847	A	3731	379	640	DGVSCLCPGWNTVAQSQLTVGSISWAQ VILQTOPPRVAVAPGRITVYRDRVSLCC PGWSGLIVLGLKPPRVLGITGMGSPQPRP GI
2797	10848	A	3732	373	598	YPCPPE/RCAQRHGQACLLPSLERKCVIS LPPSPHQTFAGPKGLGHGDALSGLIWP QTPSCEPTQPKQSNQLVN
2798	10849	A	3733	2	444	
2799	10850	A	3734	151	485	SPRGHYQLLLSGRALADRYRRIYTAALN DRDQGGGSAGHPAS/RSENLENTVIIPDI KLHSNPSAFNIYCNVRHCVLEWQKKEIS LAAASKNSVQSGESDSDEEESKEPPIN
2800	10851	A	3735	1	176	
2801	10852	A	3736	1	6570	
2802	10853	A	3737	114	14222	AAPVAAPGALFMPVPDGSVAAAAGLGLG LPAADSPGHYQLLLSGRALADRYRRIYT AALNDRDQGGGSAGHPASRNKKILNKK KLKRKQKSKSVKTRSKSENLENTVIIPD IKLHSNPSAFNIYCNVRHCVLEWQKKEIS LAAASKNSVQSGESDSDEEESKEPPIKL PKHEVGLCEVFELIKETRFSHPSLCLRS QALLNVLQGGQPEVLQSEPPEVLESFQ LLEITVRSTGMNDSTGQSLTALSCACL
2803	10854	A	3738	373	662	CRKNSCYQAQNFNLRIFFSTKLINLFHF *NDSQKST*/SDSHLARSSQFCSLN*NY*I *TAKSHDVVCTRQHFPSESYIWHVKE KKYNPTAAAI
2804	10855	A	3739	29	658	LSVASLSFLPNASAEDTMSRLSRSLWA ATCLGVLCVLSADKNTTQHPNVTTLAPI SNVTSAPVTSPLVTTAPETCEGRNSCV SCFNVSVVNTTCFWIDCKDESYCSHNS TVSD/CQVGNTTDFCSVSTATPVPTANS VTAKTHSSPPLLQLPRQLHQGTNNNTV NSVTSQPVRKSTFDAASFIGIVLVLEIRC HTRNYIPDLKK
2805	10856	A	374	562	766	GKSISRYPYFPVIFYFYFLETESCSSAQ GVQWRNLGSLQSPSGSSNPASAS*VA ETTGERHHAQ
2806	10857	A	3740	1	183	KKGLSPEQDIKFSGHVSWSVGKTSMEVK MQMFQPAFVNPLIPESPEEEELFRQGE TLICL

2807	10858	A	3741	185	1548	LNQGPQNPKKQGNFHIHETSSSIHANHV RDKLREIVKASTNWRDHVKAMEERKLL HSFLAKSQDGLPPRRMKDSYIEVLLPLGS EPELREKYLTVQNTVRFGRILEDLSLGR FLFCYMHNKIHSKMSPLSIVTALVDKID MCKKSLSPQDIKFSGHVSVWGKTSME VKMQMFQLHGDEFPCVLDATFVMVAR DSENKGPFAVNPLIPESPEEEELFRQGE NKGRRIAFSSTSLKMAPSAEERTTIHE MFLSTLDPKTISFRSRVLPNGSVGWEN SKLKEFWEI/CAHPSGSRNIFNRILVGFLM RKAYELAWATACSVGSGRPFVGAVDDA IMFQNPVEVGSLFLSSQVCFTQNNYI QVRVHSEVALPLQEKPAIQPHMPSFHH RFHVGKKESAPL/VFPKTYGESPCCTLD GQRAFPTMSGPATLEKGPTLVEPLRTP TIC
2808	10859	A	3743	2	286	TALQRHSEPSKLTfVgELAHGRFSAK/M GTLALGVYHGLPASHMELAQELMETCY QMNRMETGLSPEIVHFNLYPQGRRDV EVKPADRHNLRLP
2809	10860	A	3744	1	287	
2810	10861	A	3745	1	339	RPLLAfrLEEEQKMRPEIAGLKPANPPVL PAPQKADTDPENLPGMG*PSGQPRVQL CPGS*SLRCPQSKGLEGLP*LQRPEAPGL ALVFTSWTQGSWPpRRGLGLDGKSV
2811	10862	A	3746	2	991	
2812	10863	A	3747	1	2296	FRVDGAAMAACEGRRSGALGSSQSDFL TPPVGGAPWAVATTVMYPPPPPPPHRD FISVTLsFGESYDnskSWRRRSCWKKWK QLSRLQRNMILFLLAFLLFCGLLFYINLA DHWKALAFrLEEEQKMRPEFAGLKPAN PPVLPAPQKADTDPENLPEISSQKTQRHI QRGPPHLQIRPPSQDLKDGtQEEATKRQ EAPVDP RPEDPQRTVISWRGAVIEPEQ GTELPSRRAEVPTKPLPARTQGTpVH LNYRQKGVIDVLLHAWKGYRKFAWGH DDLKPVSRSFSEWFGGLTLIDALDTMW ILGLRKEFEARKWVSKKLHFEKDVDVN LFESTIRILGGLLSAYHLSGDSLFLRKAE DFGNRLMPAFRTPSKIPYSDVNIGTGVA HPPRWTSdstVAEVTsIQLEFRELSRLTG DKKFQEA VEKVTQHIHGLSGKKDGLVP LFHQLPTVGLFTHLGVFTLGARADSYYE YLLKQWIQGGKQETQLLEDYVEAIEGVR THLLRHSEPSKLTfVgELAHGRFSAKMD HLVCFLPGLALGVYHGLPASHMELAQE LMETCYQMNRMETGLSPEIVHFNLYP QPGRRDVEVKPADRHNLRLPETVESLFY LYRVTGDRKYQDWGWEILQSFsRfTRV PSGGYSSINNVDpQKPEPRDKMESFFL GETLKYLFLLFSDDPNLLSLDAYVFNTE AHPLPIWTPGLGWMAAGVGTSGGQRHL AGSVAFSKGPRRRHQPPSGPGSELGLGF LLVSALIRTP
2813	10864	A	375	23	483	NGVLLSSRLKCSGAISAHCSLCLLGSSNS PTSASQVAGITGAHHHTWANFCI/YFF*V EMGFHHVGQAGLELLTSDDPSALASQS AGITG/GEHLRLAVTYLNKHERGSFLSSS CLPSAWWKWCLCSCFWVPKCLALCHF KHYGRRKQVGHTSK
2814	10865	C	3753	150	584	MHPSCCPCICKPFSTLVKSHVTASASSVP DSTCLRRGQQSCEVVLWQDRVSFQARE LKAVINSAVQTSSCFIRHLPRSVSSAIAEG VTSVAIHSSSPSAGGALLWSAPFFETQQT AVAPPASLETLGfHLQPHLLHTAGSFG**
2815	10866	A	3754	292	483	

2816	10867	A	3755	84	316	GGKLINIKYLFYTSY*FLSFPWHFLAAS RAQQGEVMRLACRLDPKTSFQMAGEW LKYQLSTFLDVAGSVNWKFFSLL
2817	10868	A	3756	423	1186	
2818	10869	A	3757	222	435	PCFLALAVCCVSKKGADHSSAPPADGD DEEMMATEVTPSAMAELTDLGKCLMKH EDVCTALLITAFHSLAW
2819	10870	A	3758	1	936	MAEPFTKALDMLDAEKSAILGLPQPLLE LNDSPVFKTVLERMQRFFSTLYEN/CECP WVGLFI*CTEHYEALVSPILGPLFTYLHC GEDEAADENPESQEMLEEQVRLMTRE VMDLITVCCVSKKGADHSSAPPADGDD EEMMATEVTPSAMAELTDLGKCLMKHE VLSGTLADAVTWLFTSVLKGQMHGQ HDGCMASLVHLAFQIYEALRPYLEIRA VMEQIPEIQKDSLDDQFDCKLLNPSLQKV ADKRRKDQFKRLIAGCIGKPLGEQFRKE VHIKNLPSLFKKTTPMLETEVLDNDGGG LATIFEP
2820	10871	A	3759	30	3498	VAIVRHFGQLQLEHVVKFRWNGMSRLEK VYLKNSVMELIANGTLNILEENHIKDAL SRIVVEMIKREWPHQHPDMLIELDTLSK QGETQTELVMFILLRLAEDVVTFTLPPQ RRRDIQQTLTQNMERIFSLLNTLQENVN KYQQVKTDTSQESKAQANCRVGVAAALN TLAGYIDWVSMSHITAENCKLEILCLLL NEQELQLGAAECLLIAVSRKGKLEDRKP LMVLFGDVAMHYILSAAQTADGGGLVE K
2821	10872	A	376	129	365	NYTYTHLYANIFDTLEERGKFL/DKQNL SK LEQTGKAQGFYDLLKKLN**L*SLLTKK ASGRGPLLGNSFQF*RKKMTPTL
2822	10873	A	3760	1	168	PLKRS DGCNDGRPTRPPTRPDTTVFTSNL KQTRMVHLTPVERVCRYPVQVQKPG
2823	10874	A	3765	1	234	
2824	10875	A	3766	1	1697	LRAAGGGRTMPSFDEALQRVGEFGRFQ RRVFLLLCLTGVTF AFLFVG VVFLGTQP DHYWCRGPSAAALAERCGWSPEEWN RTAPASRGPEPPERGRRCQRYLLEAAND SASATSALSCADPLA AFPNRSAPLVPCRG GWRYAQAHSIVSEFDLVCVNAWMLDL TQAILNLGFLTGAFTLGYAADRYGRIVY LLSCLGVGVTVGVVAFAPNFPVFVIFRFL QGVFFSLTWMTCYVIVTEIVGSKQRRIV GIVIQMFFTLGHILPGIAYFIPNWQGIQLA ITLPSFLFLYYWEVPESPRWLITRKKGD KALQILRRIAKCNGKYLSSNYSEITVTDE EASNPSFLDLVRTPQMRKCTILMFAWF TSAVVYQGLVMRLGIIGGNLYIDFFISGV VELPGALLILTIERLGRRLPFAASNIVAG VACLVT AFLPEGIAWLRTTVATLGRLGIT MAFEIVYLVNSELPTTLRNFGVSLCSSL CDFGGIAPFLFRLA AVWLELPLIIFGILA SICGGLVMLLPETKGIALPETVDDVEKLG SPHSCKCGRNKKTPVSRSHL
2825	10876	A	3767	103	370	IGVPGAISASGRLAVALGTILSFSFSISE FFRFWLRVVGQVDSGDVVYCTYPLFI LSALSLEDYSPETKVFK*LKTKHDSHMT GN

2826	10877	A	3768	97	1639	CPLQWICAINNISRQIYLTDNPEAVAIKL NQTALQAGTPITSFGKKQESSCPSQNLK NSEMENENDKIVPKATASLPEAEELIAPG TPIQFDIVLPATEFLDQNRGSRRTNPFGE TEDESFEAEDQQQEVNEILSGKCCLPD SLLQQMFIVRFLGSMVKTDTSTTEVIYE AMRQVLAARAIHNIFRMTESHLMVTSQS LRAPGGRGGCGRSFSRLKCSCLPALKRA AGLPAQRLSSAKGQTASSESLTLVVPD GETPPSRNRQTPHTGEFQLASGHQHQR KVDKSTKMRKKQHRKAENSKNQNASPP PKDHNSLPAREQNWTENEFEETERGFR SDRENGTKLENTLQDIIQENFHNLARQA NIQIQEIQRTPQRYSSRRATPRHIIIRFTKV EMKEKMLRAAREKGQVVTHKGKSIRLT ADLSAETLQVRREWGPIFNLKEKNFQP RISYPAKLSFISKGEIKFDTKQMLKDVV TTRPALKELLKEALNMERKNQYQPLQK HTKM
2827	10878	A	3769	159	277	
2828	10879	A	377	67	224	
2829	10880	A	3770	1	474	HPPPTMALKRIHKELNDLARDPPAQCSA GPVGDDMFHWQA\TIMGPNDGPLYQG GVFFLTIPFPQQITPFKPKVAFTRIYHP NINHN\G\SICLDILRSQWSPALTISKVLLS ICSLLCDPNPDDPLVPEIARIYKT\DR\KY NRIAR\EW\TQKYAM
2830	10881	A	3771	153	291	
2831	10882	A	3772	1	336	
2832	10883	A	3773	1	2336	MVRSWLTATSASQVQAILLPQPKTQLN FTVAIDFTASNGETRMSEKVGGNLPQPT SLHYMSPYQLSAYAMALKAVGEIHDY DSDKLPAYGFGAKLPPEGRISHQFPLNN NDEDPCAGIEGVLESYFQSLRTVQLYG PTYFAPVINQVASNSWSSVTLGTDSEPA VEVPQYVGIRLLVEGFTIKKPMAMCHRR MGVRPAVPLLTQRSGEGKDSGTPTHSL HTKAQLPSPHVLRHQGVLRQHSKL GTKALSTTGKALRTLPTAKVFISLP*GPW HRR*AGRDSCSAGR*AAEDSLRLFHSSV SHHWKP*SQWLL*SSAVSWAEAEAGELLE PGRRLQ
2833	10884	A	3774	1015	1292	AGRAWWRMPYNPQHFRPRRVDHLRS GVQDQPGQVHGETPSLLKGPKIGWAWW RTPVIPATWEAEPAGELLEPRRQRLQVSQ DRTTALQPGQE
2834	10885	A	3775	183	511	SQHFGRRLRWADCLRSGIQDQPGQHGETL SLLKIQKLARSGGTCLQSOLLARLRQEN HFSLGEGGCSEPRSGHCTPAWARV/GHS VLKTNEQKNSSTLHTKSHWIFQFPFH
2835	10886	A	3779	60	361	
2836	10887	A	378	436	829	NLREFPWAPCPVLHYKFSSKLNWIPVT L*GGSHILPSATLKKQIYGEKKLKAADC DLQITNAQTKEEYDDNALIPKNSSVIVR RIPIGGVKSTSKTYVISRTEPAMATTKAV CKNTISHFFYTLLLPL
2837	10888	A	3780	2	616	ERTEKSDRAVRSGAPHADGSREAVFCAC IWRWRVGGGRGRSCCTGRPSWGASSAVT RGPHVTRSCRATQPSLQSSLASGYQLPA ALSSARSAFGPGKSGAGSATAKCSGAP RGENPEEKETARIGPGKTKKMEQPYAR MEEEDR/HLWGGGEGPPSPARKIERGKA RPTCPLNFRMGYPYNNRPESMDGDGWKM EMDMGKYSMGGRR



2838	10889	A	3781	2	888	RQRQRPRAGPAGRTGGQKAPGARVPPG PAMEGASFGAGRAGAALDPVSFARRPQ TLLRVASWVFSIAVFGPIVNEGYVNTDS GPELRVFNAGACRFGVALGLGAFL ACAAFLLLDVRFQISSVRDRRAVLLD LGFSGLWSFLWFVGFCFLTNQWQRTAP GPFTHAGDAARAAIAFNFFSILSWVAL TVKALQRFRLGTDMSLFATEQLSTGASQ AYPGYPVGSVEGTETYQSPFTETLDT PKGYQVPAYYRLAGTDQGSKATPTQA PGSPGPPLGPSSSVPRTE
2839	10890	A	3782	1	1944	MADRTKELESIPDSNRNGSIMGNSRDF DFGTTIKQDFRLLGQTSVDRLLQLSQGQ AVKGNQLLPVSLVKRKTTLAPNTQTASP RALADSLMQLARQVSRLESGQDFADFG TTIKQDFRLLGQTSVDRLLQLSQGQAVK GNQLLPVSLVKRKTTLAPNTQTASPRAL ADSLMQLARQVSRLESGQWTLVPNWNT TQPLSGDILLIYKGFRCFRNHHQTGFSLA GANQRGPLAATLSGPGGEGQSAVARLT GEKKN
2840	10891	A	3783	1	578	MGVEGRYPVSLSSDLEWRPDRCDASE VQRDPRAGSAPLAEDVQVDPKDSHSSS ERFLEQSHSSMERAFEADYGRSCDYKVG SPSYLDKLLWRDNKPHHYSEPKLILDLS HWKQAAGAPPTATGLADTGAREDEPAS LFLENPQGVKSTQGAQNTPARPPTPSA AWLPRPPPPGPTLADSCSVTKWGQV
2841	10892	A	3784	861	2636	GARGRPLAETWPFLTAPVLPGLQITEPT MAEKGDCIASVYGYDLGGRFVDFQPLG FGVNLVLSAVDSRACRVAVKKIALS DARSMKHALREIKIIRLDHNDIVKVYE VLGPKGTDLQGELEKFSVAYIVQEYMET DLARLLEQGTAEHAKLFMYQLLRGL KYIHSANVLHRDLKPANIFISTEDLVKI GDFGLAKESLNQHYSHKGYLSEGLVT KWYRSPRLLSPNNYTKAIDMWAAGCIL AEMLTGRMLFAGAHELEQMQLILETIPVI REEDKDELRLVMPSPVSTWEVKRPLRK LLPEVNSEAIDFLEKILTFNPMDRLTAE GLQHPYMSPYSCPEDEPTSQHFRIDEI DDIVLMAANQSLSNWDTCSSRYPVSL SSDLEWRPDRCDASEVQRDPRAGSAPL AENVQKDPRKDSHSSSERFLEQSHSSME RAFEADYGRSCDYKVGSPSYLDKLLWR DNKPHHYSEPKLILDLSHWKQAAGAPPT ATGLADTGAREDEPASLFLENAQWVKS TQGAQSTPTRPPTPSAACLP PPPPPGP GRRRQPPVRPGRVHLRPEALHQARG PAGQ
2842	10893	A	3788	1	167	
2843	10894	A	3789	1	1685	NTIHDTELYLSRCWVCCAUSAIRARA ALPNIIVGEKGGAGSARSSPRAAAECA QIPQRRSPAVQAEPARRSRFPFTLQGA FSSAIIGAGIGGTSAAYYLRQKFGKDVKI DLFEREEVGGRLATMMVQGGQEYEAAGS VIHPLNLHMKRFVKDLGLSAVQASGL LGIYNGETLVFEESNWFIVIKLVWRY GFQSLRMHMWVEDVVDKFMRIYRYS HDYAFSSVEKLLHALGGDDFLGMLNRT LLET/LQKPGCSEKLLNEMIGPVMRVNY GQSTDINAFVGAGSLSCSDSGLWAVEGG NKLVCSGLLQASKSNLISGSVMYIEKT KTKYTGNPTKMYEVVYQIGTETRSDFY DIVLVATPLNRKMSNITFLNFDPPNEEF HQYYQHIVTTLVKGELNTSIFSSRPIDKF GLNTVLTTDNSDLFINSIGIVPSVREKEDP EPSTDGT/VWKIFSQETLTKAQILKLFLS YDYAVKKPWLAYPHYK/PPPEKCPLLSF SUDDI VVNLNIECA ASAIMEMSAIAAII

						SHDRLYYLNIECAASAWEMSAIAAH NAALLAYHRWNGHTDMIDQDGLYEKL KTEL
2844	10895	A	379	74	378	GCTKDSNIYFIKEHFQSVNNHIKRLISFL IRVM*LKPQQVTIINTPIRMAKI*KAENSK CWQECGAAVTLMH***V*LPLKSWHFL KLSTCLFYDLAIPL
2845	10896	A	3790	52	264	QSFAPGPPPFIPPPWGGRRAGGFPGPGMG/ PPPGPPGGTSSSSKIPKFGRRPGGPPFPPL PKRVRPGDFFYP
2846	10897	A	3791	627	1524	SHGENCKCPSTGDYRKLIIHLKGCQGLR NKGSSPFTSIVSAAKVCGAASESPSVKSL CLLVADQDFSFKAGQWVDFIPGVSVVG GFSICSSPRLLEQERVIELAVKYTNHPPA LWVHNTCTLDCEVAVRVGGEFFDPOQ ADASRNVLVIAGGVGINPLLSILRHAAD LLREQANKRNGYEIGTIKILQCKKYPAE LLFKKNILDLVNEFFEKIACSLHVTKTDY TNPMRNSKPYTEGRITEKEIRDHISKETL FYICGPPPMTDFFSKQLENNHVPKEHICF EEVVVGGRQRQKK
2847	10898	A	3792	331	756	WKRSCLKYLWLLRSHNSHPSSSLTPSLSPS AEAEDGDLQCLCVKTTTSQVRPRHITSL EVIKAGPHCPTAQLIVSPRTASVSAPAPC LLCPSLPLMPFANPRTESHVSSLFPARA TLKNGRKICLDLQALLYKKIIEHLES
2848	10899	A	3793	3	402	HEETQPEFPALSTEILLEALPQHELRSRV LR/AQRPGLLFLGLLLLPLVVAFRRAEA EEDGDLQCLCVKTTTSQVRPRHIHQGR* SKAGPHCPTCPT**PR*KNGRKIWLGTW QAPLLQK*FKETFWESLAN
2849	10900	A	3794	2	146	
2850	10901	A	3795	3	1034	SEFFARTPRRCPRPSPGPAMGLTVSALFS RIFGKKQMPILMVGLDAAGK/TSHILYKL KLGEIVTTIPTIGFNVETVEYKNICFTVW DVGGQDKIRPLWRHYFQNTQGLIFVVD SNDIRERVQESA/DVELQKMLQEDELDA VLLVFSNWKQDMPNAMPVSELTDKLGL QHLRSRTWYVIAHLLPTQGTGFVTMV LDWLSHELKALNQPWGRPLDARKSRC VQSPMSQNSPTPRGKCPFPPTFSLPHSP QASASAPCSCLHVLVVGAVEPLLSGHR GVPLFLPAGTYGRGFAGPRPPSSRGAGI WVSFFFFCFGCTLGGQVGRGKVRAFGW CYNVALDLE
2851	10902	A	3796	1536	1838	GLPQQLTKRIQQVLIKCCLAFLFLFFF LRWSLALLPILECSGVISAHCNLRPLGLG DSLASASRVAGMTTGTCHHAQLIFCIFS RDGVSVLARTVWIS

2852	10903	A	3797	2	740	GRVGGQSTSKVPKEGLLSLHLLCSTAHYQ KTAEMKSIYFVAGLFVMLVQGSWQRSL QDTEEKSRSFSASQADPLSDPDQMNED KRHSQGTFTSDYSKYLDSSRAQDFLQ WLMNTKRNRRNIAKRHDEFERHAEGTF TSDVSSYLEGQAAKEFIWLVKGRGRR DFPGEGRPLLKNLAGRHADGFSFDEMNT TILDNLPAVARDFINWLRTKINTDREITYIT YSEIIFTNITLLAHVGCLEMFKSW
2853	10904	C	3798	204	272	
2854	10905	A	3799	1	350	
2855	10906	A	38	3	203	HASDKMADKEKKKKESILDLSKYIDKTI RVKFQGGREGE\GLPLSVPL*KFQINPA TEMMRTHAEA
2856	10907	B	380	1	483	MGQARWLTPVIPALWEAEAGGSRGPSA AGLLEFARGPLQTLFAWVSAVAEEQRI FVNRECCCLIVPLEVLSQRSTRPCEVSVC PYWENAFQLGCSGTVTVGSTTVTLAECL KWLTTFQLVLSIGLAAMVDVLTGDDVV WLLNVAEWNFSVNIPNDSLS*
2857	10908	A	3800	1	397	QRPI*PTKPIGQVRVSKGHQPTRHDFQTQF LAAHETISRLVGFSAGQVQYLDLIKK\DP SKLFNEERLIDKTKVTYLLKWLPESESLFL ASHASGHLYLYNVSHPCASAPPQYSLLK QGEFVSVAAYKYNDLFL
2858	10909	A	3801	1	2066	MAAGGAEGGSGPGAAMGDCAEIKSQFR TREGFYKLLPGDGAARRSGPASAQTPVP PQPPQPPPGPASASGPGAAGPASSPPAG PGPGPALPAVRLSLVRLGEPDSAGAGEP PATPAGLGSGGDRVCFNLGRELYFYPGC CRRGSQRWHTPLTPFLPLKSIDLNKPID KRIYKGTQPTCHDFNQFTAATETISLLVG FSAGQVQYLDLIKKDTSKLFNEERLIDKT KVITYLLKWLPESESLFLASHASGHLYLYN VSHPCASAPPQYSLLKQAWGFSFYAAK SKAPRNPLAKWAVGEGPLNEFAFSPDGR HLACVSQDGLRVFHFDSMLLRGLMKS YFGGLLCVCWSPDGRYVVTGGEDDLVT VWSFTEGRVVARGHGHKSWNVAFAFD SLYTTRAEEAATAAGADGERSGEEEEEE PEAAGTGSAGGAPLSPLPKAGSITYRFGS AGQDTQFCLWDLTEDVLYPHPLARTRT LPGTPGTTPPAASSSRGGEPPGGLPRSL RSNSLPHPAGGGKAGGPGVAAEPGTPFS IGRFATLTLQERRDRGAKEHKRYHSLG NISRGSGSGSGSGGEGKPSGPVPRSLDPA KVLGTALCPRIHEVPLLEPLVCKKIAQER LTVLLFLEDCHIITACQEGLECTWPRPGKA FTDEETEAQTGEGSWPRSPSKSVVEGISS QPGNSPSGTVV
2859	10910	A	3802	1	1155	
2860	10911	A	3803	285	1444	LLISPGPRLGAPSFPMAGHLASDFAFSPPP GGGGDGPGGPEPGWVDPRTWLSFQRP GGPGIGPGVGPGEVWGIPPCPPPYEFC GGMAYCGPQVGVGLVPQGGLETSQPEG EAGVGVESNSDGPSEPCTVTPGAIVKL EKEKLEQNPEK\SQDIKALQKELEQFAKL \LKQKRITLGYTQADVGLTLGVLFQKVFS QTTICRFEALQLSFKNMCKLRPLLQKWV EEADNNENLQEICKAETLVQARKRKRTS IENRVRGLENLFLQCPETPHWQQ\SHIA QQLGLKKHVVRVVRVWFCNRRQKGA RSSSDFA\QREDFAAGSPFSGGPVSLFP \LPPGPHFGTPGYGSPHFTA\LYSSVPFPE GEAFPPVSVTILG\SPMHSN
2861	10912	A	3806	3	225	GQTSQHHVALRTTQHHWALGQHRVAL HTVEYYLALKRKEMDTGCKWMELEYI VLSGISQSQEDMHCMIPFVSGP

2862	10913	A	3807	874	1444	CQARPMPLRAFNPVSSFRWARGMTIVA ALMTVFFIMQLVGQVPAALWVIFGEDRF RWSATMIGLSLALFGILHALAQAFVTGP ATKRFGEKQAIHAGMGPNALGYVLLAFA TRGWMAFPIMILLASGGIGMPALQAMW LAE*ITDTRANVKRLLLQNVCDLSNNMN GLRFPFCFVKSCGTPTSVLTKRWH
2863	10914	B	3808	1	1917	MIGLSLAVFGILHALAQAFVTGPATKRF GEKQAIHAGGRRAGLRLAGVPTRGWM AFPIMILLASGASGCRVAGHAVQAALRA QGLLKEAEHVESQSAETVLTPEQCQLLG YLDKGKRRKEKAGSLQWAYMAIARL GGFMSKRTGIASWGALCAGAAVLFVK TDLSGALNELQDEAARLSWLATTGVPC AAVLDVVTEAGRDWLLGEVPGQDILLS SHLAPAEKVSIMADAMRRLHTLDPATCP FDHQAHRIRERARTRMEAGLKDLMRRD QDLIKRQDEDRSHDEQDDARRSPA RAYSAIAATTDNSSGRPVLFVKTDLGAL NELQDEAARLSWLATTGVPCAAVLDVV TEAGRDWLLGEVPGQDILLSHLAPAEK VSIMADAMRRLHTLDPATCPFDHQA RIERARTRMEAGLVDQDDLDEEHQGLA PAELFARLKARMPDGEDLVVTHGDAAC RISWWKMAAFLDSSTVAGWDIALATRDI AEELGGEWADRFLVLYVLLSGTLGFEM TDQATPNLPSRDFDSTAIFYERLGFIVF RDAGWMILQRGDLMLEFFAHPGLDPLA SWFSCCLRLDDLAIFYRQCKSVGIQETS SGYPRIHAPELQEWGGTMAALVRIFVKE PYFCGVT*
2864	10915	A	3809	1057	1905	
2865	10916	B	381	119	955	MVSISRPRDPPASASQSAGITGPALGAEG ERAFHRHRVMIVTEGAPGGLSSGHLRDA MDSEAGTDDGCASHVRVVRDLKPSNI LYVDESGNPECLRICDFGAKQLRAENG LLMTPCYTANFVAPEVLKRQGYDEGCDI WSLGILLYTMLAGYTPFANGPSDTPPEIL TRIGSGKFTLSGGNWNTVSETAKDLVSK MLHVDPHQRLTAKQVLQHPWVTQDK LPQSQSLSHQDLQLVKGAMAATYSALNS SKPTPOLKPIESSILAQRVRKLPSTTL*
2866	10917	A	3810	1	2928	
2867	10918	A	3811	630	1159	GAPWGQVPAALWVIFGEDRFRWSATMI GLSLAVFGILHALAQAFVTGPATKRFGE KQAIHAGMAADALGYVLLAFATRGWMA FPIMILLASGGIGMPALQAMLSRQVDDD HQGQLQGSALTSLSIIGPLIVTAIYAA SASTWNGLAWIVGAALYLVLPAVLRG AWSRATST
2868	10919	A	3812	1	3525	
2869	10920	A	3813	1	1606	MLMKAHKGVLGEQEKVPRRLMKVLKG VPGEQEKVLWEAREEGVSSRWGTSPMG CEQRVWMGDEQAMEPLGLADGKLWRT FMGAADAERKEGRGMKVAPAPAVVKK QEAKKVVNPLFEKRPKNFGVGQDIQPKR DLTRFVKWPRYIKLQHQRFLYKRLKVP PAINQFTQALDRQTATQLELAHKYRPE TKQEKQRLLAQAEKTAGKGDISTKRL PVLQAGVNWEDKSALAKLVEGIRTNYN ERYNEIHHHWGNNVLPESVARIKLLK ADGSLRLDFTVCKKAWIVSHPVSRKLP QKQRQNRKKRQEVQAWGSGPCLSLVV GSEPATGGSSCSETSGFGKSCKVKETNP QPMATPTLEQGEAAHAEIPACSHG QVPAALWVIFGEDRFRWSATMIGLSLAV FGILHALAQAFVTGPATKRFGEKQAIHAG MAADALGYVLLAFATRGWMAFPIMILL ASGGIGMPALQAMLSRQVTSIIGPLIVTA

						IYAASASTWNGLA WIVGAAL YLVCLPAL RRGAWSRATST
2870	10921	A	3814	1701	1904	
2871	10922	A	3815	1	427	MAKMKNQIIPSVGEKLEQQKPSYDARAF VTGPATKRFGEKQAIHAGMATDALGYVL LAFATRGWMAFFPIMILLASGGIGMPALQ AMLSRQLTSIIGPLIVTAIYAASASTWNG LA WIVGAAL YLVCLPALRRGAWSRATS T
2872	10923	A	3816	1	1629	
2873	10924	A	3817	1	1013	MMGLRNSYDVKERLKHQVRGGKAPKA VNSGKLLPFPRLKELAGVEGMGNCYL RTQPGTRMQWSPMKLSVELRAGQSRLL RESKGKEIPEPRCAA VGGKEPEAKPPKV PRPMP LRAFN PVSSFRWARGMTIVAAL MTVFFIMQLVGQVPAALWVIFGEDRFR WSATMIGLSLAVFGILHALAQAFVTGPA TKRFGEKQAIHAGMAADALGYVLLAFAT RGWMAFFPIMILLASGGIGMPALQAMLSR QVDDDHQQLQGSLAALTSLTSIIGPLIV TAIYAASASTWNGLAWI*PGMFHISNPY REHPLSFHRYHYHPHEQKSPLHGGISDQT GKNRP
2874	10925	A	3818	1	2634	
2875	10926	A	3819	1328	2536	
2876	10927	A	382	1	662	LGSCVTQTGVQWCGHSSLRPQTQAQAI LLPCLSNCDYKHEPLHLAYVTQFCFLS FFFGGGGWSLALSPMLECGGVILAQCKL RLLGFTPFSCSLSPSSWDHRHPPCLANF LNF/SVETGFHFLAQDGLDLTSS/PPAS A/FPKCWDYRRDHRAQPM*CNSDVNSL MLPQMPQVK/AHQSPICPRFRHTCRLG CPQTTCTSHQLAANLEVPTMPSSSITH
2877	10928	A	3820	1	1594	MSAAPCSTVPSPIDHPRAEECGHTARDW QVAPPAAQSHDDDEEEDEKEEEEEEE ELLLAGSPYSPTVPCFPLECPCLENGSRQ KQDKHTPGFKHKFQHAFFSFPLATITHS FWVAEHSRLRLEGKQGAQISPHLQVGPGL VWQGYLWQNREAGSSRDShLNMPCGM AAGHSHSGTLFSDQGLWEQCQLLKSTSV FARCHPLVDPEPFVALCEKTLCECAGGL ECACPALLEYARTCAQEGMVLYGWTDH SACSPVCPAGMEYRQCVPSCARTCQSLH INEMCQERCVDGCSCEGQLLDEGLCVE STECPCVHSGKRYPPGTSLSRDCNTCICR NSQWICSNEECPDREGHNSRQREVALSA QVGCNHVTPALVSGQVPAALWVIFGED RFRWSATMIGLSLAVFGILHALAQAFVT GPATKRFGEKQAIHAGMAADALGYVLLA FATRGWMAFFPIMILLASGGIGMPALQAM LSRQLTSIIGPLIVTAIYAASASTWNGLA WIVGAAL YLVCLPALRRGAWSRATST

2878	10929	A	3821	3	995	TSPTATGPALVCYRASLVALREEDTRSQ EYVPFRGNRDFAHVKKMGGLGLLAMD VPEELGGAGLDYLAYAIAMEEISRGAS TGVIMSVNNSLYLGPILKFGSKEQKQAW VTPFTSGDKIGCFALSGTRAFNPVSSFRW ARGMTIVAALMTVFFIMQLVGQVPAAL WVIFGEDRFRWSATMIGLSLAVFGILHA LAQAFVTGPATKRFGEKQAIAGMAADA LGYVLLAFATRGWMAFFIMILLASGGIG MPALQAMLSRQVDDDHQGLQGSLLA LTSLTSHGPLIVTAIYAASASTWNGLAWI VGAALYLVCPLALRRGAWSRATST
2879	10930	A	3822	1	619	MPLRAFNPVSSFRWARGMTIVAALMTV FFIMQLVGQVPAALWVIFGEDRFRWSAT MIGLSLAVFGILHALAQAFVTGPATKRF GEKQAIAGMAADALGYVLLAFATRGW MAFFIMILLASGGIGMPALQAMLSRQVD DDHQGLQGSLLAALTSLTSHGPLIVTAIY AASASTWNGLAWIVGAALYLVCPLALR RGAWSRATST
2880	10931	A	3823	1	565	MPLRAFNPVSSFRWARGMTIVAALMTV FFIMQLVGQVPAALWVIFGEDRFRWSAT MIGLSLAVFGILHALAQAFVTGPATKRF GEKQAIAGMAADALGYVLLAFATRGW MAFFIMILLASGGIGMPALQAMLSRQLT SHGPLIVTAIYAASASTWNGLAWIVGAA LYLVCPLALRRGAWSRATST
2881	10932	A	3824	1	934	MTMWVLHCFTYFVSAWSKHGYAHAV TAKILYAGRIVAGITGATGAVAGAYADI TDGEDRARHFGLMSACFGVGMVAGPV AGGLLGAISLHAPFLAAAVLNGLNLLG CFLMQESHKGERRPMPLRAFNPVSSFRW ARGMTIVAALMTVFFIMQLVGQVPAAL WVIFGEDRFRWSATMIGLSLAVFGILHA LAQAFVTGPATKRFGEKQAIAGMAADA LGYVLLAFATRGWMAFFIMILLASGGIG MPALQAMLSRQLTSHGPLIVTAIYAASA STWNGLAWIVGAALYLVCPLALRRGAW SRATST
2882	10933	A	3825	657	7035	LRTCWHSDCQNTAADHSAQGSRRHRK PCNRCAPGSQNWAVPLLPDISCRTGCAV RKDRLIAGPIQ*N/LKTAVVGRQPYLTKL CLMLGCLGRMRWRCSTGWRLRLRTSSVQ CS*RISNRMSCTGSMLTTWL*MKLQQVN GLGQGLIQSAGKDCDVQGLEHDMEEIN ARWNTLNKKVAQRIQLQEALLHCGKF QDALEPLLSWLADTEELIANQKPPSAEY KVVKAQIQEQKLLQRLDDRKATVDML QAEGGRI

2883	10934	A	3826	140	2298	LFPRLLSFLTTPPHCSFSJCFVICSRITLILK GSSLITG/CTQFRLSETKEITNPYAMRLYE SLCQYRKPDGSGIVSLKIDWHIERYQLPQ SYQRMPPDFLPPLPAGALSLISKVTDRA DSMEQGAETSQGALGTLANVVTSLANL SESLNNGDTSEIQPEDQSASEITRAFDTL AKALNTTDSSSPSLADGIDTSGGGSIHVI SRDQSTPIIEVEGPLLSDTHVTFKSIREDR NGRSQKTVHTEGDMNMNIKKIVKQATV LTFTTALLAGGATQAFKENNQKAYKE TYGVSHITRHDMLQIPKQQQNEKYQVPQ FDQSTIKNIESAKGLDVWDSWPLQNADG TVAEYNGYHVVFALAGSPKDADDTSIY MFYQKVGDNIDSWKNAGRVFKDSKDF DANDPILKDQTQEWSGSATFTSDGKIRL FYTDYSGKHGKQSLTTAQVNVSKSDD TLKINGVEDHKTIFDGDGKTYQNVQQFI DEGNYTSGDNHTLRDPHYVEDKGHKYL VFEANTGTENGYQGEESLFNKAYYGGG TNFRKESQKLQSSAKKRDAELANGAL GHIELNNDYTLKKVMKPLITSNTVTDEIE RANVFKMNGKWYLFTDSRGSKMTIDGI NSNDIYMLGYVNSLTGPYKPLNKTGLV LQMGLDPNDVTFTYSHFAVPQAKGNV VITSYMTNRGFFEDKATFAPSFLMNIK GNKTSVVKNSILEQQQLTVN
2884	10935	A	3827	1	2604	
2885	10936	C	3828	1	2076	MNMNIKKIVKQATVLTFTTALLAGGAT QAFKENNQKAYKETTYGVSHITRHDML QIPKQQQNEKYQVPQFDQSTIKNIESAKG LDVWDSWPLQNADGTVAEYNGYHVVF ALAGSPKDADDTSIYMFYQKVGDNIDS WKNAGRVPKDSKDFDANDPILKDQTQE WSGSATFTSDGKIRLFYTDYSGKHGKQ SLTTAQSIREDRNGRSQKTVHTERDMIM NIKKIVKQATVLTFTTALLAGGATHAFA KENNQKAYKETTYGVSHITRHDMLQIPKQ QQNEKYQVPQFDQSTIKNIESAKGLDVW DSWPLQNADGTVAEYNGYHVVFALAGS PKDADDTSIYMFYQKVGDNIDSWKNA GRVFKDSKDFDANDPILKDQTQEWSGS ATFTSDGKIRLFYTDYSGKHGKQSLTT AQVNVSKSDDTLKINGVEDHKTIFDGDG KTYQNVQQFIDEGNYTSGDNHTLRDPH YVEDKGHKYLVFEANTGTENGYQGEES LFNKAYYGGGTNFRKESQKLQSSAKK RDAELANGALGHIELNNDYTLKKVMKPL ITSNTVTDEIERANVFKMNGKWYLFTDS RGSKMTIDGINSNDIYMLGYVNSLTGP YKPLNKTGLVLQMGLDPNDVTFTYSHF AVPQAKGNVITSYMTNRGFFEDKKA TFAPSFLMNIKGNKTSVVKNSILEQQQLT VN*
2886	10937	A	3829	1	3603	
2887	10938	A	383	110	784	AAAAASKVLM*TGGAAPQEQP*TGGVQ A*APGSVA/AEGASVEGPFGDTAPAHQ GLSPTRSHGQGGAGRASAHSRDPPGGTG GWGFLKCGPGALCPRGKDGASASVPR GPYAEAEKGGWALRGLGGVAAPGPPSR AGQAPSGLHTGPNARPAPWPIPGQGGGL RRDQAG*VSSWTGSTPGAHTAHRAPG HGGKGGSPQQPHPGQGPQIPTTHRMHS CRITAA

2888	10939	A	3830	2455	3151	DRRCPIFCLLPFGIRFILLFGSSSLQRGPFIL FFFLIFFFPFIFLLSILGSFFFFLLSPVLLLL HHFFLSLFPACLLHLLLLLLQLVGAQLG RCLHA/SSPTWCRGRGR/VLAGSRGPGAE TEGPWTAEGGRGRNLARWRRRRRQRQ RRPLGKLGWKRQRRAAGWGGGGSGA ETRRAAAVRRAGGRAVQAVAGALGRG SSIPGSPPPHQQAADQPCRPREGNPLIRR RLP
2889	10940	A	3831	1	2376	MKLMETLNQCINAGHEMTKAIAIAQFND DSPEARKITRRWRIGEAADLVGVSSQAIR DAEKAGRLPHPDMEIRGRVEQRVGYTIE QINHMRDVFGLRLRAEDVFPVIGVAA HKGGVYKTSVSVHLAQDLALKGLRVLL VEGNDPQGTASMYHGWVVDLHIHAEDT LLPFYLGEKDDVTYAIKPTCWPGDLIIPS CLALHRIETELMGKFDEGKLPTDPLML RLAIETVAHDYD*FVQLYNQHVAPVL/ GISISGCGSRPAFSASLIA*EETPTKSAASP ILQRRVIFLASGLSSLNCAIAIAFVIS
2890	10941	A	3832	1289	3109	ETPVVSLYAFWLFSAKA*VAPPSGFSPT VVSSDSWLGSLVPYTLIART/PELIFVVRQ QVLDVERGAAACG*FLPRLVG*VPDLDA VGLYSTAPII*GAIPGQGG*GLRMSEAQG VPAGGSLSTTVRLTWACLLPSLFSTSSV *QPQCSWRAARMVSLLPFLSFTFMCSL SWICFRNFIQVQVMG*VPVTLNPSSTDSP ARTFWSSGNWMI*GGIAAFGGVLGAGFF FTVAS/PLSS*HGRKRALGPPGFHLWGLG VLTGWSIIHGDLAGALRLASVILGYTLV* ASVLRQCLLDGDGQSEPSWERMMNLV VLMVFPFSVQMMVAGGSEDTWHWSSSF LPSAT*TSCSFCLKAGAVPWLSDLFSLSV VPAWPLLQFTSFLTSFLSSLLADFRSSG LALPMGFRVSAGLALPIGFRVSAGLALP TGFKGPEGCALLRGLSTALAFRVSA LLPFSAGNFFLPSTERKSGVAGFGGGTF SGTGVLVPFLARTEKSTCWGLCTFLS SSDTVFGFTCRCLARKSICSAGISFRSSS DRVFLVTFFPRRSRKSSCSTSCWRIASSV CCLVSTRLFSTPRTSSPSSSSQPCPLAGQ PGLRDP
2891	10942	A	3833	1	2968	MTIVAALMTVFFIMQLVGQVPAALWVIF GEDRFRWSATMIGLSLAVFGILHALAQA FVTGPATKRFGEKQAIHAGMAADALGYV LLAFATRGMMAFPIMILLASGGIGMPAL QAMLSRQPNFDHWTADRHGDLCLRGH MERVGMDCRRRPIPCLPRVASRCMEPG HLDMNRSRRHLANGFTTPRIGANQFLRR TVNAQTNPWQNISIASAISSSRTRRISGSV GSWPRSGNAEVSALHHYVPDLHRRMLL ATL
2892	10943	A	3834	1	563	MPLRAFNPVSSFRWARGMTIVAALMTV FFIMQLVGQVPAALWVIFGEDRFRWSAT MIGLSLAVFGILHALAQAFTGPATKRF GEKQAIHAGMAADALGYVLLAFATRGM MAFPIMILLASGGIGMPALQAMLSRQLT SIIGPLIVTAIYAASASTWNLAWIVGAA LYLVCLPALRRGAWSRATST
2893	10944	A	3835	850	1280	
2894	10945	A	3836	3	3971	VCTGSSTRHIVTFDGGQNFKLTGSCSYVLF QNKEQDLEVILHNGACSPGARQGCMSI EVKHSALSVELHSDMEAFRLVHGHPYS ITTACFLVKLCKVKLCFLVKLFFILEELPT NIKVTVNGRLVSPYVGGNMEVNVYGA IMHEVRFNHLGHIFTFTPNNEFQLQLSP KTFASKTYGLCGICDENGANDFMLRDG TVTTDWKTLVQEWTVQRPQGTCPILEE QCLVPDSSHQVLLPLFAECHKVLAPA



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2895	10946	A	3837	1838	4062	KRHKKPFKKSTNPGAGFEKINKIDRLLA RLIKKKREKNQIDAIKNDKGDITTDPTM QTTVREYYKHLVYNKPENLEEMDKFLD TYTLPRLNQEELESLNKPITGSEIEAIINSL PTKKSPGPDGFTAIFYQRYKEELLPFLK LFQSIEKEGILPNSFYEASILIPKPRDIT KKENFRPISLMNIDANILNNILANQIQHI KKLIHHDEVGFIPGMQGWFNIRKSINLIP HVNRTKDKNHMVISVDAEKAFDKIQQH FMLKTLNKLIGDGYLKIIRPIFDKPTADI ILNRQKLEALPLKTGTQRCSLSPLLFNI VLEVLARAIQEKEIKGIQLGKEEVKLSL FADDMIVYLENPIVSAQNLLKLIGNFSKV SEYTNVQKSQSFLYTNNRQTESQIMSEL PFTIASKRIKYLGIQLTREVKDFFKENYK PLLDEIKENTNKWKNIPWSWVGRIDIVK MAILPKQMPDVNVSWDGEKPKQLPFIDI SVAVATDKGLLTPIIKDAAAKGIQEADS VRSNIVLQCQARPMPLRAFNPVSSFRWA RGMITIVAALMTVFFIMQLVGQVPAALW VIFGEDRFRWSATMIGLSLAVFGILHALA QAFVTGPATKRFGEKQAIHAGMAADALG YVLLAFATRGMMAFFPIMILLASGGIGMP ALQAMLSRQVDDDHQGGQLQGSALAALTS LTSIIGPLIVTAIYAASASTWNGLAWVG AALYLVCLPALRRGAWSRATST
2896	10947	A	3838	346	777	GELYFQVCGQFVNRRCGVVMKKMYILLF LSGEFCRCL*YSLMVVCISVGSVVISPLSF FIVSI*FFSLFFISLASSLSILLILSKNQLLD SLIF
2897	10948	A	3839	1	564	MPLRAFNPVSSFRWARGMTIVAALMTV FFIMQLVGQVPAALWVIFGEDRFRWSAT MIGLSLAVFGILHALAQAFVTGPATKRF GEKQAIHAGMAADALGYVLLAFATRGM MAFFPIMILLASGGIGMPALQAMLSRQPN FDHWTADRHGDLCLRGHEMERVGMDC RRRPIPLPPRVASRCMEPHGLDLNGSRR HLANGFTTPRIGANQFLRRTVNAQTNPW QNISIASAISSSRTRRISGVSWSRSGNA EVSA
2898	10949	A	384	244	315	NPKGQKDREAPLSRSVFVLKIKIKRAFAL LLHGRF*PSTPAASASPASKSPRGSGKAL ASALFYIVQLTK
2899	10950	A	3840	3	1049	GSLQGCAASCARAFLRTCCARSESLAV RGTKGVAFGENPRAAGTCSQSPFFVPAP PPGVRLWVLCPRFTGAFLLRTTLALNV RAGDEGPRLLRAPRVPSRPSAPLAPAP ASTPARRLPPVPMQAPGRGPLGLRLMMP GRRGALREPGGCGSCLGVALALLLLLP ACCPVRAQNDTEPIVLEGKCLVVCDSPP SADGAVTSSLGISVRSKSAKVAFSATRST NHEPSEMSNRTMTIYIDQVFSNIGHHFDL ASSIFVAPRKGIYSFSFHVVKVYNRQTIQ VSLLLNGYPVISAWAGYQDVTGEAASN GVLLLMEREDKVHLKLERGNLMGGWK YSTFSGFLVFPL
2900	10951	A	3841	1	401	KGASSPVQVPGPVAASTEALLQEAQCSG LSWVVALPQVKQEKADTQDEWTPGTAV LTSPVLVPGCPSKAVDPGLPSVKQEPDP EEDKEENKDDSAKLAPEEEITEIFSLGGP RFRDTAV*LPRSKDLKKPR

2901	10952	C	3842	108	293	MNMACLGCFVVALIILPFSNPAPPLKSN FLYSGSWEEKMHQLSTLSLFPPLTSSRSS KYS*
2902	10953	A	3843	1	1490	MIREQKIYHKYLAQRREEKAQEKEFDR ILEEDKAKKLAEKDKELRLEKEARRQLV DEVMCTRKLQVQEKSYVKLLAAHPT GDIRSKVELTRYLGPACDLTLFDFKQGI LCYPAPKAHPVAVASKRKKPSRPAKTR KRQVGPQSGEVRKEAPRDETKADTDTA PASFPAPGCCENCISFSGDGTQRQLKT LCKDCRAQRIAFNREQRMFKQPYTNRR QNRKCGACAACLRMDGRCDFCCDKP KFGGSNQKQKCRWRQCLQFAMKRLLP SVWSESEDGAGSPPPYRRRKRPSSARRH HLGPTLKPTLATRTAQPDHTQAPTKEA GGGFVLPPTGDLVFLREGASSPVQVPG PVAASTEALLQEAQCSGLSWVVALPQV KQEKADTQDEWTPGTAVLTSPVLVPGCP SKAVDPGLPSVKQEPDPPEEDKEENKDD SASKLAPEEEAGGAGTPV/VTSVDIYPE RQL*VSSWSYLHSCGTERYPGCSI
2903	10954	A	3844	1	1758	MAEDWLDPCALGPGWKRREVFRKSGA TCGRSDTYQSPGTDIRSKVELTRYLG PACDLTLFDFKQGILCYPAPKAHPVAVA SKRKKPSRPAKTRKRQVGPQSGEVRKE APRDETKADTDAPASFPAPGCCENCIS FSGDGTQRQLKTLCCKDCRAQRIAFNR QRMFKRVGCGEACQVTEDCGACSTC LLQLPHDVASGLFCKERRRCLRIVERSR GCGVCRGCQTQEDCGHCPICLRPPRGL RRQWKCVQRRCLRGKHARRKGGCDK MAARRRPGAQPLPPPPSQSPEPTEPQPY T/IPPAEPQVRGLCSLPTAEWMWPLRVC CDKPKFGGSNQKQKCRWRQCLQFAM KRLLPVWSESEDGAGSPPPYRRRKRPSS ARRHHLGPTLKPTLATRTAQPDHTQAPT KQEAAGGFVLPPTGDLVFLREGASSPV QVPGPVAASTEALLQAVDPGLPSVKQEP PDPEEDKEENKDDASASKLAPEEEAGGAG TPVITEIFSLGGTRFRDTAVWLPSLQGRH SGREDGCKVWETEDTVEPTSTSWNPRG WPGTHVLSPPPASMMWVSCRSSWCPS SQS
2904	10955	A	3845	1	1647	
2905	10956	A	3846	1	1821	MAEDWLDPCALGPGWKRREVFRKSGA TCGRSDTYQSPGTDIRSKVELTRYLG PACDLTLFDFKQGILCYPAPKAHPVAVA SKRKKPSRPAKTRKRQVGPQSGEVRKE APRDETKADTDAPASFPAPGCCENCIS FSGDGTQRQLKTLCCKDCRAQRIAFNR EQRMFKRVGCGEACQVTEDCGACST CLLQLPHDVASGLFCKERRRCLRIVER SRGCGVCRGFQVQED/CLGHCPICLRPP RPLRRQWKCVQRRCLRGKHARRKGG CDSKMAARRRPGAQPLPPPPSQSPEPTE PHPRALAPSPPAEFIYYCVDEDELQYTN RRQNRKCGACAACLRNCGRCDFCCD KPKFGGSNQKQKCRWRQCLQFAMKR LLPSVWSESEDGAGSPPPYRRRKRPSSAR RHHLGPTLKPTLATRTAQPDHTQAPTKEA EAGGGFVLPPTGDLVFLREGASSPVQV PGPVAASTEALLQEAQCSGLSWVVALPQ VKQEKADTQDEWTPGTAVLTSPVLVPG CPSKAVDPGLPSVKQEPDPPEEDKEENK DDASASKLAPEEEAGGAGTPVITEIFSLGG TRFRDTAVWLPRSKDLKKPGARKQ
2906	10957	A	3847	1	1723	

2907	10958	A	3848	1	1949	MAEDWLDPCALGPGWKRREVFRRKSGA TCGRSDTYYSPTGDRIRSKVELTRYLG PACDLTLDFKQILCYPAKHPVAVA SKKRKKPSRPAKTRKRQVGPQSSEVRKE APRDETKADTDTPASFPAPGCCENCIS FSGDGTQRQLKTLCKDCRAQRIAFNRE QRMFKRVGCGECAACQVTEDCGACSTC LLQLPHDVASGLFCKCERRRCLRIVERSR GCGVCRGCQTQEDCGHCPICLRPPRGL RRQWKCVQRRCLRHLAHLRRRHQRC QRRTPLA VAPPTGKHARRKGGCD SKMA ARRRPGAQPLPPPPPSQSPEPTPHPRAL APSPPAEFIYYCVDEDELQPYTNRRQNR KCGACAACLRMDCGRCDFCCDKPKFG GSNQKRQKCRWRQCLQFAMKRLPSV WSESEDGAGSPPPYRRRKRPSARRHHL GPTLKPTLATRTAQPDHTQAPTKQEAGG GFVLPPPGH*TL CFLREGASSPVQVGP VAASTEALLQEAQCSGLSWVVALPQVK QEKADTQDEWTPGTAVLTSPVLVPGCPS KA VDPGLPSVKQEPDPDEEDKEENKDDS ASKLAPEEEAGGAGTPVITEIFSLGGTRF RDTAVWLPSLQGRHSGREDGCKVWETE DTVEPTSTSWNP
2908	10959	A	3849	2	1682	LC DTPPGRGGGGRGGGRGRLQEGPSF MGPGRGLEWRKIPAWLPNWL LLLPVASM AEDWLYCPALGPGWKREFFRKS RATC GRLNTYYQSPTGDRILSKVELTRYLGPA CDLTLDFKQILACYPSQRPILGGLPG KKRKKPSRPAKTRKRQVGPQSSEVRKE APRDETKADTDTPASFPAPGCCENCIS FSGDGTQRQLKTLCKDCRAQRIAFNRE QRMFKRVGCGECAACQVTEDCGACSTC LLQLPHDVASGLFCKCERRRCLRIVERSR GCGVCRGCQTQEDCGHCPICLRPPRGL RRQWKCVQRRCLRGLKHARRKGGCD SK MAARRRPGAQPLPPPPPSQSPEPTPHPR ALAPSPPAEFIYYCVDEDELKRLPSVWS ESEDGAGSPPPYRRRKRPSARRHHLGP TLKPTLATRTAQPDHTQAPTKQEAGGGF VLPPPGTDLVFLREGASSPVQVGPVAA STEALLQAVDPGLPSVKQEPDPDEEDKE ENKDDSASKLAPEEEAGGAGTPVITEIFS LGGTRFRDTAVWLPRSKDLKKPGARKQ
2909	10960	A	385	933	1511	QVYRPSQTPHLALSPERVAPGRLAGGRL APPEARAPRGSP/LPPHRVSEKTIRVMVFH PGARRAGGTPPRAPRGDTGGAPGAPTY STPLMSLHRARLESSSTGSSFPADSAKPV PLAVVSLDSR*GQWESRSSIHA VTN*AS SSSSSSSSSF SR/VYPRFIEFLHFDIQSTG Q/RITSRQHPPR/DFRDALF*LNS
2910	10961	A	3850	1	391	SPLNKVQLINELNEREVQLGVANKVSW HSEYKDSAWIFLGGLPYDLTKGDIICVF SQQRSTIVAVDNFNIGIKIGRTIRVDHVS NYRAPKDSEEIDDVTRQLQEKGCCARTP SPSLSESSEDEKPTKKP
2911	10962	A	3851	1	135	
2912	10963	A	3852	18	238	
2913	10964	A	3853	254	1424	

2914	10965	A	3854	8	1015	FLSAEREPEEMNPLTKVKLINELNEREVQ LGVADKVSWHSEYKDSA\WISLG\GLPY ELTEGDIICVFSQYGEIVNNLVRDKKT GKSKGFCFLCYEDQQRSTILAVDNFNIGIKI KGRITRVDHVS\NYRAPKDSIEDDDVTR QLQEKGGSGARPPSPTLSESEDEKPTKKH KKDKK\EEKKKKKEKEKADREVQAEQP SSSSPRRKT\VEKDDTGPKKHSSKNSER AQKSEPREGQKLPKSR\TAYSGGAEDLER ELKKEKPKHEHKSSSRREAREEKTRIRD RGRSSDAHSSWYYWRS\EGRSYRSRSRS RDKSHRHKRARRSREREASSNP\SDRWRH
2915	10966	A	3855	299	374	
2916	10967	A	3856	1	993	
2917	10968	A	3857	3009	3583	LFCLFFHILQPSHCWISSEM\VVQLSDSLTD LLDKFSNISEGLSNYSIIDKL\NVIVDDLVE CVKENSSKDLKKSFKSPEPRLFTPEEFFRI FNRSIDAFKDFV\VASETSDCVVSSTLSPE KGKAKNPPGDSSLHWAAMALPALFSLII GFAFGALY\WKKRQPSLTRA\VENIQINEE DNEISMLQEKEREFEQEV
2918	10969	A	3859	880	1196	SPTTRRGTPGTCLKPTACAGAA*PGCSA RRTCASAAPLSTCPPSSCAAPPAPAAVP STPRPTSPSPWAAPASPSRRRTQTASTPA STNRAPSSCWAPTTRPLAP
2919	10970	A	386	15	466	GVPNNFIINKNKTPSGWLQPLPRWL*AP VGGACHYPGLEARTEERAPCPSKYTGEP EVLRIKNQGGTPRPGGGPGPSAPRGSFL WST/PGSCPSITPHSLPAAR/PLPPTPRHPA PSSPPCTE/SAPSGPSSSQAPGITVAPGISQ VQRAAALR
2920	10971	A	3860	305	631	IEKISLEPKNRPSQIPNLVGP/RLFLVPGD FQSQVPNFLPFKPPSSGPHPAAGKGQPFSS LP\AWRSTGPERATPGPRPAACSALEAP SLRGPSSGYSAQEP\RRRPIARI
2921	10972	A	3868	980	1498	VSLINLQVLRQSLQV\TETFTSYFKPSCQ/ PPTSPIRAMKWTELRLSCLPAGRQHYL LPATPPCSVRGVHGK\PTVPPAAPSPTS QSHQPA\SHPLSSPTFLFEPIKDAGTHASLF SRDRHLPFP\TCHIRPPQPCLSPPHCSQGS RTGRAVTAALRMAAAAAMTGNQSPTRI
2922	10973	A	3869	94	484	AAAALAAALLRRREDPGPGAGPSMAE TEALSKLREDFRM\QNKSVFILGASGETG RIVLLKEILEVQGLFSK\VTLIGRRKLTfDE EAYKNVNQEVGGLLKSLDDYASAFQGH DLGFC\CLGYHQEGKAGGG
2923	10974	A	387	50	481	FMEYLTLSFIHVLLQ*FIHCFVHLFIHSFF YALMKSLIQ*FIHLYSCF/CIDLLISSCIYS FIYALVKSLANSLTHSFIHTFLQ*FVHLFT PLLICSFTHSSIH*PSHSLTFIQLHLFFHAL VSGFIWSFIYLFCKINVFLIDK
2924	10975	A	3870	302	1187	TALVPRDKDWQSPDTLKTGICRCYFPSM AETEALSKLREDFRM\QNKSVFILGATVE TGRVLLKEILEQGLFSK\VTLIGRRKLTfD EEAYKNVNQEVVDfEKLDDYASAFQG HDVGFCCLG\TTRGKAGAE\GFVRVDRD YV\LSAELEKAGGCKHFNLSSKGADK SSNFLYLQVKGEVEAKVEELKFDRYSV FRPGVLLCDRQESRPGEWLVRKFFGSLP DSWAIRGH\SVVTVVRAMLNNVVRPR DKQMELLENKAIHGPGGKRHGSSQGHD HTGRNGFYLFNLNTHDQIG
2925	10976	A	3871	71	335	PTRSTSSGSYMKRRSGSCSP\MISDTSVV LSMDNSRSSRAVVVKKIETRDGKLVSES SDVLPK*TAAAAPP\SLPLLRCPRAWEGG RYAW

2926	10977	A	3872	35	450	DIEECESMH*DDIRKHTEMENEFALIKKD MDEAYKNKVELESHLEGLTEEISFLTQL YEEEIRELHVDPDLGHICGAVH*QQSLPGH EQHHR*QGQTVRGDRQPQPG*G*EHEIK YEELQTLAWKHGMTRGAQRLRSR
2927	10978	A	3873	2121	2371	LENQSPRHVYSLSLKSKNDVMLL/DTAI FCPEATSEALDVVTSWASEAGTEELAFG FGLVLSYCKLSTSLSVASSFVGGDWL
2928	10979	A	3874	29	3977	AEVAHARWERCFFSPTFLWGCFRDRLL PGRRACFRRAGRLKRGSYNCSQLWLCV EKALAMDRSGFGEISSPVIREAEVTRTAR KQSAQKR VLLQASQDENFGNTTPRNQVI PRTPSFRQPFTPKSRLLRQPDISCILGT GGKSPRLTQSSGFFGNLSMVTNLDDSN WAAAFSSQRSGLFTNTEPHSITEDVTISA VMLREDDPGEAASMSMFSDFLQSFLKHS SSTVFDLVEEYENICGSQVNLKIV
2929	10980	A	3875	597	1088	GCQRQVVPSPWRPPLQRAKQDMAWQLL EYQELMNIKALDIEIATYRKLEGEESQ LDSGMQNMSIHTKTTGGYAGGLSSAYG DLTDPGLSYSLGSSFGSGAGSSFSRTSS RAVVVKKIETRDGKLVSESSDVLPK*TA AAAPPSLPLLRCPRAWEGGRYAG
2930	10981	A	3878	1	2474	MPGYSALSNNKPMLETTQMSITRGMGKL LVVRCGTEKAGPAVPGGMEGPRSSTHV PLVLP LLVLLLAPARQAAAQRCQACI CDNSRRHVACRYQNLTEVPDAIPELTQR LDLQGNLLKVIPAAAFQGVPHLTHDLR HCEVELVAEGA FRGLRLLLLNLASNHL REL PQEALDGLGSLRRLEEGNALEELRP GTFGALGALATLNLAHNALVYLPAMAF QGLLRVRWRLSHNALSVAPEALAGLP ALRRLSLHHNELQALPGPVLSQARGLAR LELGHNP LTYAGEEDGLALPGLRELLLD GGALQALGPRAFAHCPRHLTDLRGNO LDTLPPLQGPQQLRRLRLQGNPLWCGCQ ARPLEWLARARVRSDGACQGPRLRG EALDALRPWDLRCPGDAAQEEEELEERA VAGPRAPRGPGRGPEERAVAPCPRAC VCVPESRHSSCEGCLQAVPRGFPSDTQ LLDLRRNHFPSPRAAFGLGHLVSLHL QHCGIAELEAGALAGLRLLIYLYLSDNQ LAGLSAAALEGAPRLGYLYLERNRFLQV PGAALRALPSLSLHLQDNAVDR LAPGD LGRTRALRWGL/HLSGNRITEVSLGALGP ARELEKLHLDRNQLREVPTGALEGLPAL LELQLSGNPLRALRDGAFQPVGRSLQHL FLNSSGLEQVGTGHLA GLVQEA AQGHR QRAFTQAFASPLVPGLGPGQLSLHLQK NQLRALPALPSLSQLELIDLSSNPFHCDC QLLPLHRWLTGLNLRVGATCATPPNAR GQRVKAAA AVFEDCPGWAARKAKRTP ASRPSARRTPIQKTVWTR
2931	10982	A	3879	1	531	ETPSSEPMEEEDDDLELFGGYDSFRSYN SSVGSESSYLEESSEAEENEDREAGEL/H DLPAFAAQPWDSSLLGWQWF*ASCL/LR CVVSWVQGPSSPRPRGSAASPAGATP PTPRKPVSWLGYRENHRPKPKSCTRLP GLPKLEPSSTLKGQDSWQMGHQDCTL WSWASTGGSS

2932	10983	A	388	119	1533	KKMNLAEICDNAKKGREYALLGNYDSS MVYYQGVMMQQDSRDIAQSVQSRQLSK GKWPTFRGQELLAEYEQVKSIVKHFKK VFKIDKPSQISPVLSR*THLEIPAVWPTP VPAEHRAPPQIRR/RQSRKTSEERNGRS RSPGTCRPPSTSYIKE*/NSLLQVGTRTIEPE GGDDKGRKNMQDGASDGEMPKFDGAG YDKDLVEALERDIVSRNPSIHWDIADL EEAKKLLREAGVLPWWMPDFFKGIRRP WKNDSONLGKPYSAQDDIGMNIVGPL THGFSSASAAPETTRQPLFLLLLSLKV KTFKGVLMMVGPPTGKTMALAKAVATEC GTTFFNVSSSTLTSKYRGESEKLVRLFE MARFYSPTTIFIDEIDSICSRRTSDEHEA SRRVKSELLIQMDGVGGALENDPDKM VMVLAATNFPWDIDEALRRRCFIWVG FPDVPQEKDTSVPESCLLTDWWWGL
2933	10984	A	3880	143	606	NKYTDYCQLLKSKGVDKKGKTASSLP EGSQSISREHLPAQSWLPWACLLWLPA LL/HDEMOMRKQLPGLRSRAHSARQVR W/PCEAAAGCRMQRQASHLKSPEGKFH GHFLNTRVGRAGGNPHRPGKKWLLPSS VYVCNTEHCLWGAWCPKPNG
2934	10985	A	3881	253	514	
2935	10986	A	3882	950	1612	IIPIASVTQPKQPAWKTGYKGKQPVS ISITEKVKSMQYDKQGIADTWQVVGTV TCKCDLEGIMPVNTISLSLPTNGSPLQDIL VHPCVTSLSAILTSSSIDAMDDSAFSGP YKFPFTPPLSFNLCFYTSQSVIDDQPSKL LLNDGIGELMGFNWSNRSCGQVGSNQY AYCMPYAADQRTWRRGAWTSKYRNKN ALYTFVKRFSHLRKQREKNPYP
2936	10987	B	3886	146	326	MDESAPFLCRTLGRVSDDPGLPGCAS GPLAVPESEQKVHERKSLHWDGLTVSL VRAQX*
2937	10988	A	3887	575	828	CYPKVGRKPIKGEAPGAREKKNFAAE KRGLIPHGRKCLPISPCTGTRGPWCPCSS SGCASADTCTPRGALGAQKPIRESNF
2938	10989	A	3888	3	267	AMVGGGGVGGGLENANPLIYQSRGER PVTAGEEDEQVPDSIDAREIFDLIRS*AW PLTPQPAYWYPGPSSCQGCYRCFLES LTMRN
2939	10990	A	3889	1	942	
2940	10991	A	389	293	805	KARDKSPFLGDLCLKDTGQQSLLQCRFF PFLGTKISCFQNVHSWQTITSDGLSAGDG GFGPKYQ/RSRGQIPSGLNSLPLNSSEDL LPTPHFPLQSQGLGSQVAQIDDVKAPPPF PAEPQPKRLRSPRPLGAIESVAVSRSLP SGPTGTDAL*WLSVQKPPTRIHGNE
2941	10992	A	3890	3	470	AMVGGGGVGGGLENANPLIYQSRGER PVTAGEEDEQVPDSIDAREIFDIRRCWAR AGSGGLRWGEQ*YRAAGGAASQGV GRGF*VGKGAESLFLHFPQLIRFLNDP EHSLEELNVVEQVRVQVSDPESTVAVA FTPTISHWSMGTIGVC
2942	10993	A	3891	2	604	ARSHRISGGGSAMVGGGGVGGGLEN ANPLIYQRFGE/RPVTAGEEDEQVPDS IDA REVFDLIRSHQMTPEHPALTLEEL NVVEQVRVQVSDPESTVAVGFPKPTHSG TCRHGPPLIGLSIKVKLLRSLPSAFSR WDVAHLLPGDPLPQEHAVEQATLQI KEAGWATALGRTHHLLVVNQCLSSPA PGTWAFVPLSLA
2943	10994	A	3892	73	204	

2944	10995	A	3893	1	846	QGANMPRYAQLVMGPAGIVKSTYCAT MVQHCEALNRSVQVNLDPAAQHFNYS VMADIRELIEVDDVMEDDSLRFGPNGL VFCMEYFANNFDWLENC LGHVEDDYIL FDCPGQIGVVTLTWPVMKQLVPALEQ WEFRVCGVFLVDSQFMVDHSRFSGHLA AALSAWISLEIPQVNIMTKMDLLSKKA KKEIEKFLDPDMSLLEDSTDLRKAKN SRKLDLKAJMWDLIGWTYSLVRIF/IPYD QSDEESMNIVLQHIGFAIQYGEDLEFKR NPKEREE
2945	10996	A	3896	1	1319	MDYGLLCGQQLVPQVEPVIORGHESLV HHILLYQCSNNFNDSVLESHECYHPNM PDAFLTCTETVIFAWAIGGEGFSYPHVGL SLGTPLDPHYVLELVHYDNPTYEEVLD EKYKYKVLASDEGLLTGHNMAVGFTW WKGLIDNSGLRLFYTM DIRKYDAGVIEA GLWVSLFHTIPPMPPEFQSEGHCTLECLE EALAEAKPSGIHVFAVLLHAHLAAGR GIRL RHFRKGKEMKLLAYDDDFDNFQEFQY LKEEQTILPGDNLITECRYNTKDRAEMT WGGLSTRSEMCLSYLLYPINLTRCASI PDIMEQLQFIGVKEIYRPVTTWPFIIKSPK QYKNLSFMDAMNKFKWTKEGLSFNK LVLSLPVNVRCSTDNAEWSIQGMTAL PPDIERPYKAEPVCGTSSSSSLHRDFSIN LLVCLLLSCTLASTKSL
2946	10997	A	3897	1	394	
2947	10998	A	3898	1	150	
2948	10999	A	3899	708	911	
2949	11000	A	39	132	370	SNSPA*PSGEPGTMG/CRPPCPVNFILRK NGVPPCGPGGPKSPDLRTHPLGPPKG/RG IPGGTHCPGPPLGFKKPWPPGRV
2950	11001	A	390	2	428	GLPGSTTASAAAASAASSDAPSFQLG KPRLQQTSTFYGRFRHFLDHDPTLFTVTE RRLKEAVQLLEDYKHGTLRPGVTNEQL WSAQKIK/SGYIPFGTPIVVGLLLPNQT STVFWQWLNHSHNACVNYANRNATKP SPA
2951	11002	A	3900	1	1349	MAAGQRRSSLSRLGSQFINCDPECQLSC LVGLEVQKEEVIRAAEGWKRAAPAGLR PTNYSNRQASEGRVVIAGNQSYQSRASP RPLARWKASANGRAPIAEPAAVAGLG AGSGKRRRGWKMPVHSRGDKKETNHH DEMEVDYAENEGSSSEDEDTSSSVSED GDSSEMDDDCERRRMECLDEMSNLEK QFTDLKDQLYKERLSQVDAKLQEVIVAE RAPEHLEPAGNLQENMQIRTKVAGIYR ELCLESVKNKYECEIQASRQHCESEKLLL YDTVQSELEEKIRRLIEDRHSIDITSELW NDELQSRKKRKDPFWDKPKPGVVSGP YIVYMLQDLILEDWTTIKNAMATLGPH RVKTDPPVKLEKHLHSAISEEGRLYYDG EWYIRGQTICIDKKDECPTSAVITTINHDE VWFKRPDGSKSKLYISQLQKGKYSHTFII MI
2952	11003	A	3901	38	383	
2953	11004	A	3902	252	526	

2954	11005	A	3903	777	1719	LLTLTFPRCSVAQPLPFTGGTSVSWALL ALHVAVVFLFAGAAGCVATLLHDAAM NPAEVVKQRMQMYNSPYHRVTDCVRA VWQNEGAGAFYRSYPTQLDHDVPFQAI HFMDLWNSCRSTLTPKRSYNPDSHFFSG LCAGAVAAAATTPLADVCKTLLNTPGVL GFELTHYRTYQGMASAFRTVYQVGGV TAYFRGVQARVIYQIPSTAIAWSVYEFF KYLIHLKGQEEWRAGKVKLALNESPVG QDDTDASWSHSLSPGMLPPQVELKGKE KGLSPTDFGVLNTSSCQPLPPPPFLPGP KHVQQSTPQHL
2955	11006	A	3904	1	1788	MLQQGAILEAETKPSPTDKYTSALIFNFP ASTADLGKTKRPAVEEKETPNKTRAQSL FLLAKERRQDPFRPGLSALPLVKMAAIG GAAHSEGRRLPCRPRPFTRSPPRPSRLDA LQVQRDQSDGAALFGQPLQGRAGLSER PCQTERGKKPQQRQLSNRLQTAFRRGPL GSGFQLRWSCRGCNVNAARSPPGSAQR SRSREPLLGPRWPGSRGWQLCESLKKIA KGWVSQDPSPRQLKECGQSASTSPRTPY SQDLLQHPKLEVAADPRTRGTREPAAL VERLEMLSGAGSVVDAVPLLVVRRRRR RRRRHSAQRALAAAAAAASEPLDCQM RLCASLGVFSTAPSSACRADITDCVSGL AGGEMVPRRVLADQLTEEQIAEFKEAFS LFDKDGWGTITTKELGTVMRSLGQTQT EGVELQDMINEVYADNGTIDFPVFLTM MARKMKDSTDSEENRESFRVFAKDNGG YISAAELRHVMTNLGEKTTDLEVDEMI READIDGDGQVNYEEFVQMMTGKMED LTFQLPFSPPLESNWNLLLTLLQKKEKK KKVHLFHSCFLYSKTECQKYLIVHTHQ NLHVLVGGPVP
2956	11007	A	3905	1	351	GPPRPPTPPLKPIRGATARPPRSRF*PRS DIPPLSRVLVARPPSPPLGKPLWIMGRP RPPIAPLARAPMGRPNAWMLLLPRRCF KLFEGNRRQCSSRGCHHGSGRRAGDRP NLS
2957	11008	A	3906	3	345	SCRCRRKAGKGRPGEQTDPRTRQPTSN ELSSHTTAYASNQPI*LTRAPPSTQVRP VPGPPAGAVVAVPGGALASVSFDSRDSK TAAQSSEVGALPPHQDVTICAVRAAT
2958	11009	A	3907	3	387	RPLQTKGRKGQAGFGRSPARLPEPWWQ PREEH/WASVSFDSRDSKMAAQSAKVV LKSTTKMSLNERFTNMLKNKQPTPVNIR ASMQQQQQLASARNRRLAQOMENRPSV QAALKLKQKSLKQRLGKSN
2959	11010	A	3908	565	719	GRDVTPRSKPAPRWTSRSSPNGLKKRW CSRSWRSWERGPR*SSALGKSNIQAR/ WPTHGPGQGSNRRTRPTPYSREALPRE GLRGGRATENPT*GRDVTPRSKPAPRW SRSSPNGLKKRWCSRSWRSWERGPRW SYGSWRNRW
2960	11011	A	3909	299	557	ADGSADLDSQRSSNELSHTTAYASNQP/ LHLANPSPSTSQLRFRPVPAVAVPGAVG GSPREEHLASVSFDSRDSKMAAQVSSEK LC
2961	11012	A	391	3	297	
2962	11013	A	3910	1	420	
2963	11014	A	3911	2	437	
2964	11015	A	3912	10	250	
2965	11016	A	3913	2824	3156	SNIEGVKGLSRQKAWTADYNFCLGGNCH FSGFYFDSDCYSSYRRCRTCCDFCNSG RNCSGFWFLCCTILCSD*SSFLISRSTW TPGLAIHPTRRLIT*TLISWSTV
2966	11017	A	3914	1	70	
2967	11018	A	3915	42	140	



2968	11019	A	3916	4594	4848	HIYCE*SLYLFRE*DLDDGDLDLECELAR LRDLVYDLE
2969	11020	B	3917	565	1161	MYHGWVVDLHIHAEDTLPPFYLGEKDD VTYAIKPTCWPGLDIIPSCALHRIETELM GKFDEGKLPDPLMLRLAIETVAHDYD VVIDSAPNLGIGTINVVCAADVLIVPTPA ELFDYTSALQFFDMLRDLKNDLKGFE PDVRILLTKYSNSNGSQSPWMEEQIRDA WGSMVLKNVRETDEVGKDLHALLVR L*
2970	11021	A	3918	3	226	LSVLFCFCFVESNFNFYVYSCCVFMATS QTDIFCMHTYSLIEMIVIHYNLEFF*ISKM ATIAVLGFLRLDIYHV
2971	11022	A	3919	1469	2806	CGSPPFATSSFFALS GHVLF AKLCTMVAP KLRSWMYAVYGALAVMTMGWPWYLL LLGHCVGLYVASLLGQPWLCLGLGLAS LASFKMDPLISWQSGFVTGTFDLQEVLF HGGSSFTVLRCTSFALSCAHPDRHYSL ADLLKYNFYLPFFFFGPMITDRFHAQVS QVEPVRREGELWHIRAQAGLSVVAIMA VDIFFHFFYILTIPSDLKFANRLPDSALAG LAYSNLVYDWWKAAVLFVGVNTVACL DHLDPQPPKCITALYVFAETHFRGIND WLCKYVYNHIGGEHSAVIPELAATVAT FAINTTLWGPCDIVYLWSFLNCFGPQTL KLWVPKTGQKWGPCKHEIEGLLCQVQ MSRRV RALFGAHELSPHMYNLVSLN SLAKFTEL VARRLLLTGFPQTLSILFVTY CGVQLVKERERTLALEEEQKQDKKKPE
2972	11023	A	392	1	885	
2973	11024	B	3920	54	316	TIWDGEETVYCFKERSRAALKACYRGN RYPTPDEKRRLATLTGLSLTQVSNWFKN RRQRDRTGAGGGAPCKRKLPPGQPCVW QPHRDG*
2974	11025	A	3921	1	2219	MATLPAEPSAGPAAGGEAVAAAAATEE EEEEARQLLQTLQAAEGEAAAAAGAGA GAAAAAGAEGPSGPVGPSPPEAASEPPT GLRFSPEQVACVCEALLQAGHAGRLSR FLGALPPAERLRGSDPVLRARALVAFQR GEYAELYRLLESRPFAAHHAFLQDLYL RARYHEAERARGRALGAVDKYRLRKKF PLPKTIWDGEETVYCFKERSRAALKACY RGNRYPTPDEKRRLATLTGLSLTQVSNW FKNRRQRDRTGAGGGAPCKSES DGNPT TEDESSRPEDLERGAAPVSAEAAAQGS FLAGTGPPAPCPASSILVNGSFLAASGSP AVLLNGGPVIINGLALGEASSLGPLLLTG GGGAPPPQSPQGASETKTSLVLDPTG EVRLEEAQSEAPETKGAQVAAPGPALGE EVLGPLAQVVPGPPTAATFPLPGPVPAV AAPQVVPLSPPPGYPTGLSPTSPLNLQP VVPTSQVVTLQAVGPLQLLAAGPGSPV KVAAAAGPANVHLINSVGVTALQLPS ATAPGNFLANPVSGSPIVTGVALQQGKI ILTATFPTSMLVSQVLPAPGLALPLKPE TAISVPEGGLPVAPSPALPEAHALGTLSA QPPPPAAATTSSLSLFPSPDSPGLLPNFPA PPPEGLMLSPAAPVWSAGLELSAGTEG LLEAEKGLGTQAPHTVLRLPDPDPEGLL LGATAGGEVDEGLEAEAKVLTQLQSV VEEPLEL
2975	11026	A	3922	185	478	VSDTLWALAGLAAGRWAGGCQTGLQ GVVQGLGLLINGPRAGAAPLSLGNLHPP SAARWHPS*AASHTGTGQSLVGIVEPHN PTSSGG*RPGTAGRSQ

2976	11027	A	3923	74	593	RGWVMWVDEFQPALVLSPYERQLNLDA SVQHLEDGDGKRKRSSSSPRSSINKKAKA LDNSLQPKSLAASSPPPCSQSPQCEPKP QGVKPHGPRGPLSASGVPGPQWPQG GG/WWGAAGRVAEPRTESREPVSGAGT SSRSPSPTGFRQPPHPSARPSRAAPGQR GWAGDRR
2977	11028	A	3927	1	2936	MALMFTGHLLFLALLMFAFSTFEESVSN YSEWAVFTDDIDQFKTQKVQDFRPNQK LKKSMHLPSLYFDAGEIQAMRQKSRASH LHLFRAIRSAVTVMLSNPTYLPPPKHA DFAAKWNEIYGNNLPLALYCLLCPEDK VAFEFVLEYMDRMVGYKDWLVENAPG DEVPIGHSLTGAFATDFLYNLLDNHRR QKYLEKIWVITEEMYEYSKVRSWGKQL LHNHQATNMIALLTGALVTGVDKGSKA NIWKQAVV
2978	11029	A	3928	2	512	
2979	11030	A	3929	1	399	
2980	11031	A	393	2	674	SCPLSCTSAATGLWVKEGLRIVSSVLLGL SCPWGSPLAELDLGEG/RLWRTSFYGR FRHFLDIIDPRTLFTVTERRLREAVQLLED YKHGTLRPGVTNEQL*SAQKISQAIYHP DTNEKIFMPFRMSGYIPFGTPIVVGLLP NQTLASTVFWQWLNQSHNACVNYANR NATKPSPASKFIQGYLGAVISAVSIAGL NVLVQKANKFTPATRLLIQRFVPPFAV
2981	11032	A	3930	1	1812	NRRTRP GCGVVTCTYRREFIQRLEAAL NVHDGCVNTICWNDTGEYILSGSDDTKL VISNPYSRKVLTTIRSGHRANIFSAKFLPC TNDKQIVSCSGDGVIFYTNVEQDAETN RQCQFTCHYGTTYEIMTVPNDFYTLSC GEDGTVRWFDTRIKTSCTKEDCKDDILIN CRRATSVaicppipyLAVG/CSDSSVRU YDR/RLMLGHKELQGNVAGRG/TTGIGLP RFISLPHLNNKSCRVTSLCYSEDGQEILV SYSSDYTYLFDPKDDTARELKTPSAEVER REELRQPPVKRLRLRGDWSDTGPRARPE USERERDGEPESPMCPMLQRMSSDMLSR WFEEASEVAQSNRGRGRSRPRGGTSQSD ISTLPTVPSSPDLEVSETAMEVDTPAEQF LQPSTSTMSAQAHSTSSPKESPHSYFSC YFLPDSVQDQSQSVEASGHHTHQSEFLR GPEIALLRKRLQQLRLKKAQQRQQLA AHTQQPSTSDQSSHEGSSQDPHASDPS SVVNKQLGSMSLDEQDNNNEKLSPKP GTGEPVLSLHYSTEGTTTSTIKLNFDEW SSIASSSRGIGSHCKSEGQEEFVPQSSVQ PPEGDS
2982	11033	A	3931	1	1878	
2983	11034	A	3932	2	202	
2984	11035	A	3933	9	111	SRQAWHEASNYGPMKSGNFGGI/RNMG GPYGGGNL
2985	11036	A	3934	297	611	QWGLRFMNGVLSGGLSVQTASPPSASR RHFPVLGVGDGELSHGGRCPAGVKVGR GGGNSYLSKARCFGGHGVSSASVSAGS RSS*ARLSFPSPSLTGTGFGR

2986	11037	A	3935	14	1276	KSGGTALAAVAAAPGVRRCSSQSCFSS SGSSHYSARTSPVRVRPRRLSSRSAGN RAEATESAMEKTLETVPLERKKREKEQF RKLFIGGLSFETTEESLRNYEQWGKLT DCVVMRDLASKRSRGFCFVTFISHGLE VDAAIASRPHSINGEVVEQKRAVAREE SGKPGAHVTVKKLFVGGIKEDTEEHHLR DYFEEYGKIDTIEIITDRQSGKKRGFGFVT FDDHDPVDKIVLQKYHTINGHNAEVRK ALSRQEMQEVQSSRSRGGNFGFGDSR GGGNGFGPGSNFRGSDGYGSGRGF GDGYNGYGGGPGGNGFGSPGYGGGR GGYGGGPGYGNQGGYGGGYDNYGG GNYGSGNYNDFGNYNQPSNYGPMKS GNFGGSRNMGGPYGGGNYGPGGSGGSG GYGGRSRY
2987	11038	A	3936	827	2064	QRRVPCGAPRRVVSRAAAVLTAPG RVRVFVVRGDLSHLARLREIGLKRLSPR WREKKKQFRKLFIGGLSFETTEESLRNY YEQWGKLTDCVVMRDPASKRSRGFGFV TLSSMAEVDAAAMAARPHSIDGRVVEPK RAVAREESGKPGAHVTVKKLLVGGIKE DTEEHHLRDYFEEYGKIDTIEIITDRQSG KKRGFGFVTFDDHDPVDKLDLRKYHTI NGHNAEVRKALSRQEMQEVQSSRSRGR GNFGFGDSRGGGNGFGPGSNFRGSD GYGSGRGFGDGYNGYGGGPGGNGFGGS PGYGGGRGGYGGGPGYGNQGGGYGG GYDNYGGGNYGSGNYNDFGNYNQGS SYGPMKSGNFGCWRNMGGPYGGGNY GPVGGSGSGGYGGRSPILKLLPICHGAS LV
2988	11039	A	3937	36	320	GPGRWVVVDEVTMWLELEQYPVSFLKQ PFEIGRHLDLPKGTYGICVNMCPGNKSC/ PRGKRCQSNCGHVCKVVPETSKSQPLR CSQGMTHWSSL
2989	11040	A	3938	3	713	
2990	11041	A	3939	1	519	
2991	11042	A	394	485	1044	HLVPLCPCNLSKAGRCTVQERLLVICCS RSWRWRNLM*RWLNYPVSSGHRH*SS LARETSVDPDMRKGPAGAEGKGKAVGC KGVSQETAAYWKRTSSSLEPTWTLTN KPMFFGFRNLFAPTFRHTPEALWLPTPC HRGSPALHIEAFMPAALPSGTASCELPGH WPYQLSGVLCCAPWVIKEA
2992	11043	A	3940	1	966	MGHHLMDKLVALGGLYYAIQRHYATK CSVLKNDQILVIGLFMIQNVIYRKHFANP LSALFLQQGIELFAAIAEIHITVAERNHA ITQIRLEAQTFDSLKEWHNAIRKSLDYE ALQAFEFVRGATDRGFPALSSSEALVRVL VLDANDNSPFVLYPLQNGSAPCTELVPR AAEPGYLVTKVVAVDGDSGQNAWLSY QLLKATEPGLFGVWAHNGEVRTARLLS ERDVAKHRLVVLVKDNGEPPRSATATL QVLLVDGFSQPYLPLPRAAPAQAQADSL TVYLVVALASVSSLFLFSVLLFVAVRLC RRSRAAPVGRCSVL
2993	11044	A	3941	1	2783	RILSVDDFVELNVSSLVAVAEGIGYRDL DSNMKKLGRIHPNRQVLAFLMVFLSQV RLEPIRYSVLEETESGSFVAHLAKDLGLG IGELASRSARVLSDDDKQRLQDRQTGD LLLREKLDREELCGPIEPCVLHLQVVLE MPVQFFQGELLIQDINDHSPIPEREVLL KILENSQPGTLFPLLIAEDLDVGSNGLQK YTISPNSHFILTRNHSEKKYPDLVQDK PLDREEQPEFSLTLVALDGGSPRSRG
2994	11045	A	3942	383	703	NRITPTSARINLSILVPSAINNGSMTEDIN RTVISGTPRQNSIKMTDKIRTIGIWERRPG VVVLTTCIMV*HLTSAIANRLNLLRKL

						RMVIFSHRLKVSSMKSA
2995	11046	A	3943	1887	3072	NFVMCHGEPWLAGRTVVPVSTLSGPEL ALQKLGKTPLGRLFTSSTLTRDFIEIGR DAGLWGRRSRLRLSGKPLLLTELFYRRH RCTKRKKICDCISANVWAVLKTVEAAGS DRPVQCLTITAVQREERDTQSLSVITAELE PVSSPHFIREAGQYGTGRSSKEREVQPVV QRSFSNWIRNNCGDICELSPSGDHPPPS GPGLYSARKAIMQHYQARGMRDVTVED IYIGNGVSELIVQAMQALLNSGDEMLVP APDYPLWTAASVLSGKAVHYLCDESS DWFPDLDDIRAKITPRTRGIVIINPNNTG AVYSKELLMEIVEIARQHNLIIFADEIYD KILYDDAEHHSIAPLAPDLLTTTFNGLSKT YRVAGFRQGWVHRFFTPRLTVQAI
2996	11047	A	3944	623	2587	SPRKGGGKGGKANRVLLTGAPLDPIDLS QSAVSHSVKEL/ENHTGVRLLDRTTREV VLTDAGQQLALRLERLLD/ELNSTLRDT GRMGQQLSGKVRVAASQTISAHLIPQCI AESHRRYPDIQFVLHDPQQWVMEISIRQ GDVDFGIVIDPGVGDLCQCEAILSEPFLL CHRDSALAVEDYVPWQALQGAKLVLO DYASGSRPLIDAALARNGIQANIVQEIGH PATLFPMAAGIGISILPALALPLPEGSPL VVKRITPVVERQMLVRRKNRSLSTAAE ALWDVCNCAIQPFFTAITRCIGSVTVKLV LVPVGKSEFLAAQHKVVTCPNAGDIAV VASVIGLICITLSKERFEPPTAAGEIVADT VQEHIVVEIHAIRRTVGAIHQVEIKSGV TQAYLQLGINEKLGLSGRPDRPIGCLGTS KIYRILGKTVVCYPIIFDLSDFYMSQDVF LLIDDIKNALQFIKQYWKMHGRPLFLVI REDNIRGSRFNPILDMLAALKKGIGGVK VHVDRLQGPLENDLVHVALIAESQRLQ VFLNTYGIQTQTPQQVEPIQIWPQQELVK VTLGAFGHEEEVISNPLSPRVIQNIYYKC NTHDEREAVIQELVIHIGWISNPNELFS GMLKIRIGLQNECSLVIQVSTIIPAT
2997	11048	A	3945	102	2392	RKQMNYSKQLKVFTVAQEKSFSTRAG ERIGLSQSAVSHSVKELENHTGVRLLDLDR TTRAVVLTADAGQPLALRLERLLDELNST LRDTGRMGQQLSGKVRVAASQTISAHLI PQCIAESHRRYPNIQFVLHDPQQWVME SIRQGDVDFGIVIDPGVGDLCQCEAILSEP FLLCHRDSALAVEDYVPWQALQGAKL VLQDYASGSRPLIDAALARNGIQANIVQ EIGHPATLFPMAAGIGISILPALALPLPE GSPLVVKRITPVVERQMLRVDLRFAQK FQIGDRKILRSGNNAVNVLPAAATCGFPFP VCCWRFAYGCCSALLRIPRLYSVFIIISL LYGFSRAHISPGACWVFIHERFGQFMY GLYPHDQRWRINLALLIGLVSIAPMFWKI LPHRGRYIAAWAVIYPLIVWWLMYGGF FALERVETRWGGLTLTLIIASVGIAGAL PWGILLALGRRSHMPIVRILSVIFIEFWRG VPLITVLFMSSVMLPLFMAEGTSIDKLIR ALVGVLFSAYVAEVVRGGLQALPKG QYEAESLALGYWKTQGLVILPQALKLE TVRQPOTLAMEEINCHHNYVQKEQHFG EEIYVTRKGAVSARAGQYGIIPGSMGAK SFIVRGLGNEESFCSCSHGAGRVMSTRK AKKLFSVEDQIRATAHVECRKDAEVIDEI PMA YKDIDAVMAAQSDLVEVIYTLRQV HSCRAGETGAVAPASDRGKGGDGNLRS NRGRRGAGVAASALPARHRARGRLPLC YR
2998	11049	A	3946	2	331	

2999	11050	A	3947	3	116	
3000	11051	A	3948	3	162	
3001	11052	A	3949	181	804	RPLPRIGCCGPGAGQVGEARSPRVS LCF APCRLLRAGGGRALRRRGPGTPGPVARP SYSSFTQGDSWGEGEVDEEEGCDQVAR DLRAEFIMGQWSEPRKLSVLPDRNGS PVLDPKRNIGIFPSGRGQQEPLRRWPFQ VLSILCSLLFAILLAFLLAIAYLIVKELHA ENLKNEDD VDTGLLGFWTLLIISLTAGIL LLQLFLGQ
3002	11053	A	395	901	1213	SQHFGRPRWADHLRSGV*DQPGQHDET PSLLKIQKLAGYSGEHL*SQLLRRLRHEN CLNPGSGGCSEPRLHHCTPAW/VAEPDS VGGGVGGKEKNNTSNMLQTRP
3003	11054	A	3950	1	149	
3004	11055	A	3951	1	1896	
3005	11056	A	3952	3	275	
3006	11057	A	3953	2	395	
3007	11058	A	3954	1	209	
3008	11059	A	3955	466	3315	EMVPRWAIYQGFQDCLVHHASSRASGL WKLNPCRGLRCPDTRLPTSRWPNRDTR SASTQLLGKQSLPPAPEADPVFLPQEENE PPSPLVSGIIDYNMPLTSTYLKQMKLRV MNSQEQAGSSPTPIQTERHTAQLLLTAD QTLVLPATQHYVVLKFFPRPGAEDIMSG GPTLEAAEFDDLIGKCLPDRPIAGSVRLG DRIWNPRGSPRRRCRLHGQCVPGSLER RPRDYPITLQLWLARRQDPARCGLAEHN DR
3009	11060	A	3956	11	755	ETHAPPSGVWGLERPSHPADQEIAGGQG QTAPAWEKPHSHPTPKSCGDQTKTTLHT ERREDKPSFTRAGWGWENLKGPPVTEG AGSPGGSSHGAGLNRDHPLQSQPGRRAI PWPQRAPTHMLFSMTRGQSPGAAPGAQ PEISKLAGEYKKQKKQRSLRKKCHP/QE AGHRQRVAHSAGPGLQGEAAGEGRGEG AFWLKARNISKYSSLGINIPNKGAGQSC LGKVGCRRHDPHSGLSAPFPRPMSQAL
3010	11061	A	3957	175	559	VKRQLRRLRRSPWPDEKPKGKVKTENN DHINLKVAGQDGSVEQFKIKRHTPLSKL MKAYCEARQGLSMKQIKIPDFDGPVNE TIDPATVGKWKDERYQLMVFQARPG GVYLKRELCFLYSQNSVSF
3011	11062	A	3958	140	380	
3012	11063	A	3959	98	426	LLTPSSSAALKGESVQWHLREAGQSLPR RLTCAGWNKRFLHWIDQLSG*TQTCLLL VVFVWIATE*LGESLPL*APIGGTQPW*F LIGAMKKHQETGENDHFNSPGPSH
3013	11064	A	396	110	1012	KTTRGYTLHCAAAWGRLETLKALVEL DVDIEALNFRERARDVAARYSQTECVE FLDWAGLNPGTATHDSDEEAFLTRVW STGHNDSGVKQRMGQKEIQNATSSNH TCPSSITLQRKKGV*FVGLLW*FRNVSTL LMKTFLPQARNSPPETPSGTTITQITGKIC RMYFWSYMESEGPPESEAEFFSQEEEE NEEEEAQEPEETGPKNPLLQPALTG DVE GLQKIFEDPENPHHEQAMQLLEEDIVG RNLLYACMAGQSDVIRALAKYGVNLN EKTTRGDTLLHCAAAWGRLETL

3014	11065	A	3960	234	1050	ARTLKRRWKVRKTVIGRKVQTMKILETL RISALLWEEVLLLGLKDKEYTSFWND CISSGLRGGILIELAMRGRIYLEPRTMRK KRLLDRRVLLKSDSPTGDVYWDETLKH IKATEPTETVQTWIELLTGETWNPFLQY QLRNVREERIAKNLVEKGILTTEKQNFLLF DMTTHPVTNTTEKQRLVKKLQDSVLER WVNDPQRMCKRTLALLVLAHSSDVLEN VFSSLTDDKYDVAMNRAKDLVELDPEV EGTKPSATEMIWAVLAFAFNKS
3015	11066	A	3961	1	1074	MEPIGARLSLEAPGPAPFREAPPAEELPA PVVPCVQGGGDDGGGASETSPDAQLGD RPLSPKEE/CRPPGAGGAAGMPPPLPRAL LFLARRPHL/VRRPSSCSSSNRRWHWA A/SGAEDAQLGPGGCCAKCKKRVQFAD TLGLSLASVKHFSEAEPPQVPPAVLSRLR SFFPMRAEDLEQLGGLLAAAAVAAPLSAP PSRLRPLFQLPGPSAAAERLQRQVCLER VQCSTASGAEVKSGRVLSCPGPRAVTV RYTFTWRSFLDVPaelQPEPLEPQQPEA PSGASEPGSGDAKKEPGAECFHSLCLPP GLQPEDEEDADERGVAHVFAVCYRCAQ GEYWDNNAGANYTLRYARPADAL
3016	11067	A	3962	42	424	
3017	11068	A	3963	3	899	PPNVFSPASLPFFPAEGGPGRSRWREGG YLSQSRSGRLSQEEAASRSAGGMAGAPD ERRRGPAAGEQLQQHVSCQVFERLA QGNPQQGFFSFFTSNQCQLRLKLTLET NPYVKLLLDAMKHSGCAVNKDRHFSCE DCNGNVSGGFDASTSQIVLCQNNIHQA HMNRVVTHELIAFDHCRAHVDWFTNI RHLACSEVRAANLSGDCSLVNEIFRVQ FGLKHPPQTCVRDRATLSILAVRNIKE VAKKAVDEVFESCFNDHEPFGRIPHNKT YARYAHRDFENRGRYYYSNI
3018	11069	C	3964	165	347	
3019	11070	A	3965	871	1194	EFVFFFETESFSVTQLECSGHNGLHCN LHLPGSSNAPASASRVARITGAHHHARLI FVFLVEMGFHQTGWAMLVLKLPDIQVIC PPWPPQSAGIYRHEPQHPGRK
3020	11071	C	3966	54	197	MVLSSFNQKAIKLALLKYFKISFQLPFF YVHKIGCRHSHFAMNVS**
3021	11072	A	3967	263	742	SRSHDHLTYVYVSPWNFFRALRISNSK NEMFMSFLFREMKKKKLPSDSDGLEAL EGKDKEKESTVHIETHQNTSKNVAVQP MKRAGQKSKMKMKMEKY*DQDEEDREL IMKLLGSAGSNKEEKGKKGKGTCKDE PVKKQPKPRGGQRVSDNIKKE
3022	11073	A	3968	189	1393	SHTDFPYDNSTDGGDTSSDEDKEEHETP VEVELMTQVDQEDITLQSGRDELNEELI QEESSEDEGEYEEV/REKDQDSVGEMKD EGEETLNYPDTITIDLSHLQPQRSIQKLA SKEESSNSSDSKSQSRRLSAKERREMK KKKLPSDSDGLEALEGKDKEKESTVHIE THQNTSKNVAAVQPMKRQKSKMKMKM KEYYKDQDEEDRELIMKLLGSAGSNKEE KGKKGKKGKTKDEPVKKQPKPRGGQ RVSDNIKKETPFLEVITHELQDFC/AVDD P/HLIDQGKPEDLDQQGNEENLFDSDQ GQPHPEDVL/LGFAIPICAPYTTMTNYKY KVKLTPGVQKKGKAAKTALNSFMHSKE ATAREKDLFRSVKDTDLRNIPGVKSV CTQSSERKKEIAEMKF
3023	11074	A	3969	192	1510	
3024	11075	A	397	247	496	
3025	11076	A	3970	68	382	MSVPDEEERLLRLTQRWPRASKFLSGC AATVAELGTRLPTGPPGPVARAALGEE TAGAASRPGSAQSKRSPPSHARLAEVAV

						EARPRGGRRRDLEVSTAFSF
3026	11077	A	3971	3	1451	GAVRTWGRGFQTEKCOASLLNFWNPPT TAQVTIEAEPKVSCKGKDVLLLVHNLPO NLAGYIWKYKQMKDLYHYITSYVVDGQ IIYGPAYSGRET VYSNASLLIQNVTRDA GSYTLHIVKRGDGRGETGHFTFLYRH SLDSALSLEVTGSSQPL*DTWENCPTLW LHCLMTELTSGLDVLPVISAEPSPRS GFPVSKGKDNWKFHHPSLGCPWQGKL QRKHTSGGKVRLLKRRFQHCLMQVRTT SIEPKPSISSSNLYPREDMEAVSLTCDPE TPDASYLWWMNGQSLPMTHSLQLSKNK RTLFLFGVTKYTAGPYECEIRNPVSASRS DPVTNLNLLPKLPKPYITNNLNPRENKDV LAFTCEPKSENYTYIWWLNGQSLPVSPR VKRIENRILILPSVTRNETGPYQCEIQDR YGGIRSYPTLVNLYITTKHSGLYACSVR NSATGMESSKSMTVKVSAPSGTGHLPL NPL
3027	11078	A	3972	1	1008	
3028	11079	A	3973	3	1374	
3029	11080	A	3974	1	1854	
3030	11081	A	3975	1	1319	
3031	11082	A	3976	1	2247	
3032	11083	A	3977	1	1993	
3033	11084	A	3978	1	1006	
3034	11085	A	3979	3	1095	AQLTAVLRKFLDPRLISTEENTQAAETM GPLSAPPCTEHIKWKGLLVASLLNFWN LPPTAQVTIEAOPPKVSEKDVLLLVHN LPQNLTYIWKYKQIRDLYHYITSYVVD GQHIIYGPAYSGRETAYSNASLLIQNVTR DAGSYTLHIKRGDGRGVGTGYFTFLYL ETPKPSISSSNLNPREAMETVILTCDPETP DTSYQWWMNGQSLPMTHRFQLSETNRT LFLFGVTKYTAGPYECEIWEVSGSASRS PVTLESP/RMGPDLPRIFFSSPLNYFRER NLGFVPGLGDF*TPPAQYSWTINGKFQL SGQKLFIPQITPKHNGLYACSRNSATGE ESSTSLTIRVIAPPGLGTFCFQ
3035	11086	A	398	653	1139	RPFFPPHSESQNPQRQ/PDSSPTGTST*PA DTHCPRPVSAQGGTAEG**PRVHGSP PLPHSIGSAPPQCQEGAPAGEWAREPGE DGVVPAGPQN*GKMEFSGAG/GQVPSR VVEGVQSHLRSEGPPACPAVPCAAEGP DGRPGNTGRGGPGLRNQRRWEEW
3036	11087	A	3980	3	1442	IRADPAHELENCSCPGKRLSTERGRTAQ LTAVLREFLDPRLISTEENTQAAETMGTL SAPPCTQRIKWKGLLLTASLLNFWNLPT TAQVTIEAOPPKVSEKDVLLLVHNLPO NLTYIWKYKQMRDLYHYITSYVVDGEI IIYGPAYSGRETAYSNASLLIQNVTRDA GSYTLHIKGGDDGRGVGTGRFTFLHLET PKPSISSSNLNPRETMEAVSLTCDPETPD ASYLWWMNGQSLPMTHSLKLSETNRTL FLLGVTKYYLQDPIECEIRNPVSASRSDP VHPGISCPKLPKPYITNNLNPRENKDVL NFTCEPKSENYTYIWWLNGQSLPVSPRV KRPIENRILILPSVTRNETGPYQCEIRDY GGVRSDPVTLVNLYGPDLPRIYPSFTYY RSGEVLYLSCSADSNNPPAQYSWTINEKF QLPGQKLFIRHITTKHSGLYVCSVRNSAT GKESSKSMTVEVSGKVDPKHRWQ

3037	11088	A	3981	79	1565	EASLLEDDDDGMVYLRPLTSHQYRTAQL RAMLRKFLDPRLSSTEENTQAAETMGPL SAPPCTQRITWKGLLLTASLLNFWNPPTT AQVTIEAEPTKVSKGKDVLLLVHNL PQN LAGYIWYKGQMKDLYHYITSYVVDGQII IYGPAYSGRET VYSNASLLIQNV TRED A GSYTLHIVKRGDGT RGETGHFTFTLYLE TPKPSISSNLYPREDMEAVSLTCDPETP DASYLWWMNGQSLPMTHSLQLSKNKR TLFLFGVTKYTAGPYECEIRNPVSASRSD PVTLNLLPKLPKYITNNLNPRENKDVL AFTCEPKSENYTYIWWLNGQSLPGSVP RVKRPIENRVLIFTCSRGIETGPYQCEI VRDRLWVGLRSLPSPWNVPLMGPDLPRI VYPYFTYLPFQGGKPSDLSWLSRES*PHR AGVFFWGFNGGSFSGIQGQKLFIPQITT KHSGLYACSVRNSATGMESSKSMTVKV SAPSGTGHLPLNPL
3038	11089	A	3982	1	2045	MLEAAVHAPGNSDVTRTRCATQVLKPL VSYGQAETGFSVPQLKYPPWDGLLHRDI PPGTLPVEHSPCSLAALQFLNATSTHGE SAFARRKLESSFSQHSLOEGHRHGSRLSP SGAPVKDSGSR TAPGSRGGQHPSQLLL CGRDDL FQASSGHGPFLLLPPELPSRDA LQLLREASKFPTDKRQGRSWSVAITNTA ATSLEWVPFHAFAPRSTLVSQQLSTER GRTAQLTAVLREFLDPRLISTEENTQAAE TMGTLSAPPCTQRIKWKGLLLTASLLNF WNLPTTAQVTIEAEPTKVSEKDVLLLV HNL PQNL TGYIWYKGQMRDLYHYITSY VVDGEIIIYGPAYSGRETAYSNASLLIQN VTQEDAGSYTLWHIKRRDGTGGVTGHF TFTLHLETPKPSISSNLNPREAMEAVILT CDPATPAAGYQWWMNGQR/LSPMTHR LQLSKTNRTLFI FGVTKYIAGPYECEIRNP VSAISRSDPVTLNLLPKLPKYITNNLN RENKDVLNFTCEPKSENYTYIWWLNGQ SLPVSPRIVKRPIENRILIPSVTRNETGPY QCEIRDRYGGIRSDPVTNLVLYGPDLPRI YPSFTYYRSGEVLYLSCFADSNPPAQYS WATINGKVFSLAQQGKLSIPQITTKHSGLY ACSVRNSATGKESKSITVKVSDWILP
3039	11090	A	3986	212	461	TEEHLYSPHWKGCGRKVKRLFQVRRGR GWIQTRQPGSMVKEPPLSEAGAESHVSC /RQGDCSRPPSFPLSPERVTPWLPDSHTW



3040	11091	A	3987	1	2353	MRPPRAPVVPDLGGPRLCPVPAAGGAR SPSSPYSVETPYGFHLDLDFLKYIEELER GPAARRAPGPPTSRRPRAPRPLAGARS PGAWTSSESLASDDGGAPGILSQGAPSG LLMQPLSPRAPVRNPRVEHTLRETSRRL ELAQTHERAPSPGRGLVREQMAAALRR LRELEDQARTLPELQEVRALRAEKARL LAGRAQPEPDGEAETRPDKLAQLRRLTE RLATSERGGRARASPRADSPDGLAAGRS EGALQVLDGEVGSLDGTPQTREVAAEA VPETREAGAAQAVPETREAGVEAAPETVE ADAWVTEALLGLPAAAERELELLRASLE HQRGVSELLRGRLELEEAREAAEEAAA GARAQLREATTQTPWSCAEKAAQTESP AEAPSLTQESSPGSMDGDRAPAGILK SIMKKRDGTPGAQPSSGPKSLQFVGVLN GEYESSSEDTNDSGDSENGGAEPGGS SSGSGDDSGGSGSDSGTPGPPSGGDIRDPE PEAAEAPQQAQGRCELSRLREACVAL QRQLSRPRGVASDGGAVRLVAQEWFRV SSQRRSQAEPVARMLEGVRRGLPELLAH VVNLADGNGNTALHYSVSHGNLAIASLL LDTGACEVNRQNRAGYSALMLAALTSV RQEEEDMAVVQRLFCMGDVNAKASQT GQTALMLAISHGRQDMVATLLACGAD VNAQDADGATALMCASEYGRLDIVRL LLTQPGCDPSILDNEGPSALAVALEAET GMKVAALLHAHLSSGHPDTQSGVTPLA PQTANTW
3041	11092	A	399	2	510	FLANFLCFIRD/GFHHVGDGLHLLTS*S ACGLPKCWDYRREPLRPTSPLSRPHQ ALCCLAFGHSAATCTCVN/SALAWAGF WNPQAPGF/SVAPAHLLTHTVSLSPMPL WATCSPGAGHEAPGLMLQDPFGPPWCS CGPVFHEKTAGCKARAFSGRVCRCQAQ ALPETGR
3042	11093	A	3990	53	364	RSKVEAGLAPEPGPLGARVGS/PGTRAR HGRPG/PA/GASIGPGCGPNEQVDEQAGP AQLQGPQGPAPRAIGFPHRLGLGSSCKI KGDGPGVRRPGSDRLSSSSPT
3043	11094	C	3991	408	620	
3044	11095	C	3992	64	300	MDSSHSTTLXPTANPNTGLVEDLDRTGP LSMTTQQSNSQSFSSTSHGLEEDKDHPT TSTLTSSNRNDGHRWKKRPKSF*
3045	11096	A	3993	1	530	
3046	11097	A	3994	1	436	
3047	11098	A	3995	3	1009	
3048	11099	A	3996	1	2226	
3049	11100	A	3997	2	1599	QPLPGSVRHRPVLRRPLPRAQGSSSSFR PRPPFAPDTMDKFWHAAWGLCLVPLS LAQIDLNITCRFAGVFHVEKNGRYSISRT EAADLCKAFNSTLPTMAQMEKALSIGFE TCRYGFIEGHVVIPRIHPNSICAANNTGV YILTSNTSQYDTYCFNASAPPEEDCTSVT DLPNAFDGPITITIVNRDGTTRYVQKGEYR TNPEDIYPSNPTDDDVSSGSSSERISSTSG GYIFYTFSTVHPIPEDSPWITDSTDRIPA TNMDSSHSTTLQPTANPNTGLVEDLDRT GPLSMITTQQSNSQSFSSTSHGLEEDKDH PTTSTLTSSNRNDVTGGRDPNHSEGSTT LLEGYTSHYPHTKESRTFIPVTSAKTGSF GVTAVTVGDSNSNVNRSLSGDQDTFHPS GGSHTHGSESDGSHSGSQEGGANTTSG PIRTPQIPEWLILASLLALALILAVCIAVN SRRRCGQKKKLVINSGNGAVEDRKPSGL NGEASKSQEMVHLVNKESSETPDQFMT ADETRNLQNVDMKIGV

3050	11101	A	3998	245	1148	FPGSTPTPFAPDTMDKFWHAAWGLCL VPLSLAQIDLNITCRFAGVFHVEKNGRYS ISRTEAADLCKAFNSTLPTMA/QMEKALS IGFETCRYGFIEGHVVIPRIHPNSICAANN TGVYILTYNTSQYDTYCFNASAPPEEDC TSVTDLPNAFDGPITITIVNRDGRYVQK GEYRTNPEDIYPSNPTDDDVSSGSSSER ESTSGGYIFYTFSTVHPIPEDDSPWITDS TDRIPATRDQDTFPPQWGFPLPLHGSEFR WDTMGSQGRWEQTQPLGPIRDTFNSQ NGLIHLGHPLLALGL
3051	11102	A	3999	3	327	AGPGEVAGDGRDSGGPAGGRRCLWNW SGSGKSLRKGNPSVSIYCFCLPNHYLFDR N/SLRSSAGTKSGSYPPQISSMLILVPP CVPQQTHPGLDLKTQKLSLLSALI
3052	11103	B	4	3508	3762	MTPGVVHASPPQSQRVPRQAPCEWAIRN IGQKPKEPNCHNCGTHIGLRSKTLRGTPN YLPIRQDTHPPSVIFCLAGVGVPGLPV*
3053	11104	A	40	25	412	IQARKKQQSVLGIKTEDQGTFLNLRKGI MDIEAYLERIGYKKFTSKLDFETLTDILS HQIPAVSFDNLTVLCGDAMDGLGLEAIFD QAVR*NRIGGWILQVNHLLYWALTIG YETTKIGRYGYQTPAEK
3054	11105	A	400	249	434	IVEYRGMWDYRLLFFFPETESCSVAQVG TQWHDLSLQPLSPGSSNSPASAS*VAGI TGIH
3055	11106	A	4000	8	280	SAQMAVTTADPRVRPRVRTTVFTSIAHT DTMVHLTPVEKSAVTALWAKVNVNEV GGEAPGQGCWVVLPLGPPKGPLKPFGGI CPNSLNAG
3056	11107	A	4001	405	647	
3057	11108	A	4002	405	606	
3058	11109	A	4003	1	849	
3059	11110	A	4004	2	1173	PQQSPECVPLPVSVCSHWSIPTSHRLLR VLVTVCELYVRWPRCNADLTCTKAVQ NGWDLKVPCTCLHLLAVPGVGLFIDEG VKQGFVETFRDTRGVLVHGCIMSCLCN NRVRPYLKKKQKSKTTDVGVEVEESG RGCAAGAEVFCMQQGSASHAAEQES SSKVESGRHSYNLYLVVISPRTPASLQN LQILKCIRFWTWHEERFLYMLMEYVPGG ELFSYLRNRGHFSSTTGLFYSAEIIAIEY LHSKEIVYRDLKPENILLDRDGHIKLTD GFACKLAAYRLMWKSLSEKRWVWRCG GEAKER*Q*QFGWVPASRKVRS*SQDT CPHHRKQGRRLRTWTLCTGPEYLAPEVIQ SKGHGRAVDWWALGILIFEMLSGWVL
3060	11111	A	4005	149	1358	APPSHCLCVSVSRAEPRTRRRRAWGAS VDAAAAAAPPSEAASRGVRLPERSGLAR RPPGPECLPMEAPGAQAAAAESNSREVT EDAADWAPALCPSPEARSPEAPAYRLQD CDALVTMGTFGRVHLVKEKTAKHFF ALKVMSPDVIRRKQEQHVHNEKSVLKE VSHPLIRLFWTWHEERFLYMLMEYVPG GELFSYLRNRGHFSSTTGLFYSAEIIAIE YLHSKEIVYRDLKPENILLDRDGHIKLTD FGFACKLVDRTWTLCTGPEYLAPEVIQS KGHGRAVDWWALGILIFEMLSGFPPFFD DNPFGIYQKILAGKLYFPRHLDHFVK/DG ANDVNHHRWFRSVDWKA VPQRKLKPP VPTIAGNGDTSNFETYPEHDWDTAAPVP QKDLEIFKNF
3061	11112	A	4006	1	683	

3062	11113	A	4007	521	1163	SQDTCPHHRKQGRRLRTWTLCTGPEYLAP EVIQSKGHGRAVDWWALGILIFEMLSG AFPKHVSSNASPGLQNWGRFPFFDDNP FGIYQKILAGKLYFPRHLDFHVKCQTPK EKQKTKNKVIFLHARHQKQNKTNNNNN SNNKMKFIKNGANDVKHHRWFRSVDW KAVPQRKLKPPIVPTIAGNGDTSNFETYP EHDWDTAAPVPQKDLEIFKNF
3063	11114	A	4008	181	1448	APPSHCPRRSVSRAQPRTRRRERAWGAS VDAAPPPSEASREARLPERSGLARCP GPECVPMAPGLAQAAAAESDSRKVAE ETPDGAPALCPSPEALSPPEPPVYSLQDFD TLATVGTGTGFRVHLVKEKTAKHFFALK VMSIPDVIRLKQEQHVHNEKSVLKEVSH PFLIRLFWTWHDERFLYMLMEYVPGGEL FSYLRNRGRFSSTTGLFYSAEIIICAEYLH SKEIVYRDLKPENILLDRDGHKLTDFGF AKKLVDRTWTLCTGPEYLAPEVIQSKGH GRAVDWWALGILIFEMLSGFPFFDDN PFGIYQKILAGKIDFPRHLDFHVKDILK KLLVVDRTTRLGNMKNKNGANDVKHHRW FRSVDWEAVPQRKLKPPIVPKIAGDGD TSNFETYPENDWDTAAPVPQKDLKIFKNF
3064	11115	C	4009	3	167	MPMXAQIEEPQIQVKTRTNLRLTQLRE QDQTKCLCPLYNQAPRKKFLLLWA*
3065	11116	A	401	532	986	PWAKLGLSCVPAWQVQVLAICRWKEVG ILDFLFFVFFFLR*SL/SDTQAGVQWC DLGSLQTPLPFGKWFSCPSLPSSWDYRH APPRSADFCIF/M*RWGFTMLAKLVSNS* PQ/CDLPASASQSAGITGVSQCTRNLGIF IDGTSVSDSSRT
3066	11117	A	4010	1	2195	MDPGTLQASQGPTAINPCDYVLKRRNI QTSWQRLTPIIKWHVYILMIGPGEKEAG RNLGIFGKWTPFKIPAKRLRESNCPVDA QEIWLPQAFREYLGRRGNFGPGRRTCEF WEVESICSVESWELWLRQADSGDSGKC SPDACGIIDTSLRAGHCYLTRLWHVSG RIPPSFKLHHPGVCKFPKVGGKMTTFKE AVTFKDVAVVFTEELGLLDPAQRKLYR DVMLNFRNLLSVGHQPFHQDTCHFLRE EKFWMMGATQREGNSGGKIQTELESV PEAGAHEEWSCQIWEQIAKDLTRSQDS IINNSQFFENGDVPSQVEAGLPTIHTGQK PSQGGKCKQSFSDVPIFDLPQQLYSEKS YTCDECGKSICYISALHINHQRVHMGEKC YKCDVCGKEFSQSSHLQTHQRVHTGAEK PFKCGIQCCKGFSRRSALNVHKLHTGE KPYICEACGKAFIHDSQLKEHKRIHTGEK PFKCDICGKTFYFRSLKSHSMVHTGEK PFRCDTCDKSFHQSALNRHCMVHTGE KPYRICEQCGKGFGRDLDFYKHQVVTG EKPYNCKEKGKSFWRSSCLLNHQRVHS GEKSFKCEECKGKYTNSQLSSHQRSHS GEKPYKCEECKGKYVTKFNLDLHQRVH TGERPYNCKEKGKFNFSRASISILNHKRL H/SPEKNPFKCEDCGKRLVHRTYRKDQP RDYSGENPSKCEDCGRRYKRLNLDILL SLFLNDT
3067	11118	A	4011	1	4559	MDGAKAFFSAVAAGFVILTCQLQWQW QHGGVHAHLWQLASGYRDACFCVST YSSGPSEFPGLTGLNELAIDLEERKHR RKAKVWKEGGGLRSPRQSLAFAVL ASRGTRSCHVSPYLGVSALSSPNPST TGAGPIPPVQRWGLPQINQKNREIAIPLT LGMSTHLRRGCKNMSRFSPLHCCTTPIS TNFTDPGSHCKGAHGDIQLLQNLKGAL PMSINRSYFNAHPLLQISEAVTFKDVA VFT

3068	11119	A	4014	1	1387	FRAASGRETRAALGASQCLTPHPLPRVG GGGASGGGLRGAGQAWSAMSSPDAGY ASDDQSQTSALPAVMAGLGPCPWAES LSPIGDMKVKGAPANSAPAGAAGRA KGESRIRPMNAFMVWAKDERKRLAQQ NPDLHNAELSKMLGKSWNALTLAEKRP LVEEAERLRVQHMQDHPNYKYRPRRRK QVKRLKRVEGGFMHGMDEPQAAAMGP EGGRVAMDGLGLQFPEQGFAPGPLLPP HMGGHYRDCQSLGAPPLDGYPLTPDTS PLDGVDPDPAFFAAPMPGDCPAAGTYSY AQVSDYAGPEPPAGPMHPRLGPEPAGP SIPGLLAPPSALHVYYYGAMGSPGAGGGR GFQMOPQHQQHQQHQQHPPGPGQPSPP PEALPCRDGTDPSQPAELLGEVDRTEFE QYLHFACKPEMGLPYQGHDSGVNLPDS HGAISSEVSASSAVYYCNYPDV
3069	11120	A	4019	77	407	ESDGGKRKKKSRGDPSQLEEKISKGCQ RRKKPRLYRPSNYNRAFRMRRL/ARLPT RTSPETRTPOPHSPHS/PERTPTPPGRPP FLGAGQLQRLFMGIPQVGDCCPPSS
3070	11121	A	402	2	992	FVDAAGCPLRCSVVTGIVVLQKSGNRPE DLRAAQLPGRLELLLNFCSAMSPAPDA APAPASISLFDLSADAPVFQGLSLVSHAP GEALARAPRTSCSGSGERESPERKLLQG VLWTISEKLFCTCDQTFQNHQEQREHY KLDWHRFNLKQRLQGGQPLLSALGL*KA ELHRRSFPAFSGIRRIQDSASEEDLQTL RERATFEKLSRPPGFYPHRVLFQNAQGO FSLCLPLCPR/LLIRIPQKRQNLTLRTLQS RGPRDCVVLMAAAGHFAGAIQFGREVV THKTFHRYTVRAK/QGHSQGAFG/NARG GPSHSAGANLRWYNEATLYKVS
3071	11122	A	4020	20	463	
3072	11123	A	4021	572	1594	SSDWKRTMSWIKEGELSLWERFCANIHK AGPMPKHIAFIMDGNRRYAKKCQVERQ EGHFTGFKQLAETLRWCLNLGILEVTYV AFSIENFKRSKSEVDGLMDLARQKFSRL MEEKEKLQKHGVCIRVLGDLHLLPLDLQ ELIAQAVQATKNYNKCFNLVCFAYTSRH EISNAVREMAWGWVEQGLLDPSDISELL DKCLYTNRSPHPDILIRTSGEVRLSDFLL WQTSWSCLVFQPVLPWEYTFWNLFMAIL QFQMNHSLVQKARDMYAEERKRQQL RDQATVTEQLLREGLQASGDAQLRRL HKLSARREERVQGFQALELKRADWLA RLGTASA
3073	11124	A	4022	2	365	
3074	11125	A	4023	1	464	RRWRICSTWTRSFATAWLPPAPSANFPR TDRSQGDRGAPAGFALAPILEFFLWDT SQKFLQKPHCFMHGRERAKMGRRAQQE SAQAENHLNGKNSSLTLTGETSSAKLPR CR/QGGWAGDSVKASKFRRKASEEIEDF RLRPQSLNGSDYGGDIP
3075	11126	A	4024	254	662	
3076	11127	A	4025	3	392	MKYSAIQTLDEIDLKLLTKVLAPEHEV R*VQWWQFPGLSTLAIPINPAELPGLAL CLP*RPWNGREKVSQLEKALSLSYPA KPFLVEDDVGWDWDHLFTEVSSEVLTE WDPLQTEKEDPAGQARHT
3077	11128	A	4026	63	779	GPIRGPWGPGFGGWGGATPPAPTSRLRL RAAGLAPRRRAKMGRRAQQESAQAEN HLNGKNSSLTLTGETSSAKLPRCRQGGW AGDSVKASKFRRKASEEIEDFRRLRPQSL NGSDYGGDIPNPDLEEVEEDFVLQVVA APPSIQIKRVMTYRDL/DNDLMKYSAI QTLDEGID/LDKLL/TPKVLAPHEVRE NPSWQDDVGWDWTHLFTEVSSE/VSFT EWDPLQTEKEDPAGQARHT

						EWDPLQTEKEDPGGQARHT
3078	11129	A	4027	2	311	
3079	11130	A	4028	1	136	
3080	11131	A	4029	2	170	
3081	11132	A	403	2583	3827	DRVSLLLPRLECNGAILAHCNLC/SGFK *FSCSLPSNWDYREVPPHQLIFVFLVE MGFHHIAQAGLELLTS/SI/PPTLA/FPKC WDYRR\DHAWLFFFCSENSFTLLPRLE *GGLISDHCNLRLLGSSDLPASASQEPRL QACATTPR*FLYFW*RRGFTMLARLVN S*PQV/HPPASASQSAEIGVSHHTWPQEV FLFLNLFYLRWSLALSPRECSDGISAH CKLRPPGSSVLLPQPPE*LGLQAPATTPG* FFCIFS RDGFSPC*PGGS*SPDLVICLPRPP KVLGLQV*ATTPGYFFETGTHSVTWA AVQWYTIAHCSLELLSSSDPTSSSQVIG TTGAPHHAHLYLFYLFIFIEMRVPCVV QAGLELLSSRDFFAWASQSAEITGMSHR AQLGIIFKAPRMSV
3082	11133	C	4030	64	276	MCKALGTPYSPQQQLGTEASSVHRTC WHLLGQGSAAARXXXXXXXXXXXXXXXXX XXXXXXXXVSIDPTTQG**
3083	11134	A	4031	3	295	
3084	11135	A	4032	3	279	
3085	11136	A	4033	3	392	RIRHEAAAKGAAAMSAHLQWMVVRNC SSFLIKRNKQTYSTEPNNLKARNSFRYN GLISPARLWGVEPAADGKGVV\VV\KR RSGQR/KPA/TSYLRTTINKNARATLSSIR HMIRK\NKYRPDLAHGHAGI
3086	11137	A	4034	2	562	VAAAKGSRQCLRHQWMVVRNCSSFL LIKRNKQDPTALSPNNLKARNSFR\YNG\ LIHRKDCGTWSRSADGK\GVVV\VIK\RR SG\QRKLATSYVAGPPSTRNARSHASGR HQ/VHIDPARNKLPPPTCRMGPSPFRAQR PFLAQAGRLVDWLKEGRRDPAPRSSLK PLGPQKQLKSAGVFSKKKKKSR
3087	11138	A	4035	1	139	
3088	11139	A	4036	1	299	VGIW*PVTNFGVISGTAIEMD*G/TPYIH ALTNGLLTVEAPHK/ERIALKPGYGYLS INSDELVV/GRSDAIGPREQWEPVFQNDG HPVMRMNSLQKATI
3089	11140	A	4037	796	911	AMA*YSYVKSSKLVLKGT\SKKKKSTDK KRKREDEETQLD/IVGIW*TVTNFGEISG TIAIWNGRKGTYIHALDNGLFTLGAPHK /ERIALKSGYGYLGINSDDL VVGRSDAI GPREQCEPVFQNGKMALLASNSCFIRC EAGDIEAKSKTAGEEEMIKIRSCAERETK KKDDIPEEDKGNVKQCEINYVKFQSFQ DHKLKISKEDSKILKKARKDGLHETLAL DRA\KLEAD\RYCK
3090	11141	A	4038	193	754	EPSRGVWPHEARINGSKKKKSKEKKR KREDEETQFD/IVGIW*TVTNFDEISGTI AIEMDEGTIHALDNGLFTLGAPHEGK MALLASNGCFIRCNEAGDIEAKSKTAGE EEMIKIRSCAERETKKKDDIPEEDIGNVK QCEINYVKFQSFQEHKLKISKEDSKILK KAQKDGLHETLLDRGP

3091	11142	A	4039	213	919	YVQSLKQILS/GCI*ESIAIKKKKNKDKKR KREDEETQLDIVGIWWTVTNFGEISGTI AIEMDKGTIHALDNGLFTLGAPHKEVD EGPSPPEQFTA\VKLSDSRIALKSGYGKY LGINSDDL VVGRSDAIGPREQWEPVFK\ MGKMALSTSNCFIRNHEAEDIEAKSKT AGEEEMIQQSP*SSVQPFHLLWTFILF QEHRSLLLKIRSCAERETKKKDDIPEEDK GNIKQCEI
3092	11143	B	404	1	336	MGRARWLT\VIPALWEAEAGGSREVEE YMGAEAVKSWTSSMFKEWDEKVRREK TSSRRARAAQCGGVFESPEYVHLLKVFL EDLDKQQQTNSKASRRQEIIKIRAELEIK T*
3093	11144	A	4040	802	1463	AEATALENPLEESRPHEARINGSKKKK SKDKKRKREDEETQFD\IVGIWWTVIN GGISGTIAIEMDEGTIHALDNGLFTLGA PHK/ERIALKPGYGKYL\NSDELVV\GRS KAIGPREQWEPVFNQACAGFTVIGSE KQSECSLLRESRAKYHGCTHGQISSLK QHPRWMYSHQEDLKVWSLVEKKVTFE HIYLLKRNNSHSIAEAMYGRLSNYI
3094	11145	A	4041	879	1051	GGARYHFFFFFFFDGACSVTQAGVQWP ILGSLQPPPRFKQFSCLSLPSWDYRRD
3095	11146	A	4042	125	1366	RDSSSTLSHKSACACGFFPSTHKSGET RFTSVRCLKYKSAKSFHLHIGYREAAVWC CQRLVPCTRRTQESSLDFATNLQHSAWS RLCRRGASRTSSAARSRSRSPAVEGCNR SPGAPQAPRARRRPSRGAPGRAMVKV AFNSALAQEAKKDEPKSGEELIIPPD AVAVDCKDPDDVVPVGQRRWCWCM CFGLAFMLAGVILAGGAYLYKYFALQPD DVYYCGIKYIK\DDVILN\ESPSADAPAA\ LYQTIEENIKIFEERRSLNFISVPVEFAD SDPAKIVQDFNQETYRYPYLD\DFNL\DKCY VIP\NTSMCYATPKTLELLINIKAGNLF ALSPYLD\SMRHMGYLLDRINENIDHPGF FIYRLCHDKETYKL\QRRETIKGIQKREAS NCFAIRHFENKFAVETLICS
3096	11147	A	4043	42	557	QAGKL RPGGLDSRSRSSAAGLDRDQGL HRVAFLPKRRTGGTRMDRSATAATAPP AAPAGEGGPPAPPNLT\SNRRLQQTQAQ VDDVVDIMRVNV\DKVLERDQKQSELD RC\ADALQAGASQFETSAAKLKRKYW WKNLKMMLILGVICAILIIIVYFQHLNP RGVCPA
3097	11148	A	4044	178	731	SSERCHQQVFIPMPALPPGF\SQAGSCVP TGSSLVL\CLLAASLLFVPTLALLTGATT CWCLHNKRLAV\RRPLAWAGAFGLVLS TRLIHGRT\SFYFNSLPLQ\TNSSTC\QNH SWDSGGRGDLPWPLAAPRRVGLDLCS QAHTCQQGADWIHALLCLMGVTGVPTA LPAKHLEQNTSPFVVDAE
3098	11149	A	4045	3	155	
3099	11150	A	4046	100	448	WWEVKGMESHGQKNKQEGGAHFRACV CVMESHVTRLECSGAISAHCNRLQGS SNSPDSASRVAGTTSTRHEAQLIFVFLAE TGFHHVQAALELLTSSDPPTSASQSAD MLYK
3100	11151	A	4047	151	461	RLTAAATASLCPLRPVTRLPLSRGSKM KEGMSNNSTTSISKPRKAVEQLKMEAC MDRVKVSQAAADLLAYCEAHVREDPLI IPVPAENPFREKKFFCTIL
3101	11152	A	4048	1	447	
3102	11153	A	4049	553	1938	
3103	11154	A	405	2	313	FFFFLRRSLALSPRLECSGVISAHCKLR GSR\RFSCLSLSHSDYRRPPRPANFLY FLVEKGFHCVSQDGLHLLTS\AIPP\TSA\F

						PKCWDYRCDSMNFLMVSKD
3104	11155	A	4050	303	478	DCTSRPSLCPLSARCDVHGLSPGPVLVR* GLIVIEDALPKSHSGGRGEVRQPWDFCG A
3105	11156	A	4051	458	964	DPRTMNLAIISIALLLTVLQVSRGQKVTSL TACLVDQSLRLDCRHENT/SAVSPIQYEF SLTRETKKHVLFGTVGVEHTYRSRTNF TSKYNMKVLYLSAFTASKDEGTYTICALH HSGHSPPISSQNPVFRDHGVKCEGISL LAQNASWLLLLLLLSLLQATDFMSL
3106	11157	A	4052	411	557	YSTDELPNIKISTSGRLQWLMSPALWE A/EDQAGRSFEFRNLRLVWTT
3107	11158	A	4053	508	1220	PLPPAATPCPKQLGSQAWACRAARGA EQGVWGWKRHPAPSRGRVDKGSTQKQ DPSAHTTSTLNYQMHSCH/KHRRHTHT HTHTHTHTHTHTHQHNIPGGSPDQE EAGQVVEKKAANPSHNPTLQDRRVSSIL SCCKRKLEAPSPEQISMVGPGRSNLWFP HWQRRQEPAKCSFGLKEQWGGDFSRM NRLMGPGVNPSTSPFWSRKLHKGKDV CWLHRHAKCLSARCPRIWRVW
3108	11159	A	4054	1609	1807	DRVWLLPRLEYSGMVSAHCNTHLLGSS QSPTSASQAAGTTGAHHYVQVLVYIYI ILGFLVETFR
3109	11160	C	4055	169	297	MILEFHXXXXXXXXGGGRFKEPLGGPNLP GAGKVLFFSLWGAD*
3110	11161	A	4056	270	614	PFKFILITQVIRDPFSSEPYLGEKANHPP GFHHVKGQASHVCKTHPAPSCPP/PDC CLPCPSLGPAPHFRGCCMEFPKGNFRC LDPFYLDNIFRFFCSLVTPGGKEIARTFF
3111	11162	A	4057	637	890	TKWAGSIVYLSFSFLHMFMSFLLV/STF LALCMLILVVLFLKLPPKLFSELPLKL TFLPCELLHLHLFQDLAYFFNGLRK
3112	11163	A	4058	3	297	ATAARPCPLGRRAGESRGPGHIGVRPG STLCQIIATCHMSVNDGGCKYVLCRWE KRLWPAKVLARTATSTKNKRRKEYFLA VQILSLEEKLSVVL
3113	11164	A	4059	2	1940	CPGLGRRAGESRGPGHIGVRPGSTLCQII ATCHMSVNDGGCKYVLCRWEKRLWPA KVLARTATSTKNKRRKEYFLAVQILSLE EKVKVKSTEVEILEKSQIEAIASSLASQNE VPAA/PLEELAYRRSLRVALDVLSECSI WSQESSAGTGRADRSRKGPMHVSPPC DSNSSSLPRGDVLGSSRPHRRRPCVQQL SSSFTCEKDPECKVDHKKGLRKSENPRG PLVLPAGGGAQDESGSRIHKNWTLASK RGRNSAQKASLCLNGSSLEDDTERDM GSKGGSWAAPSLPSGVREDDPCANAEG HDPGLPLGSLTAPPAPEPSACSEPGECPA KKRPRLDGSQRPPAVQLEPMAAGAAPSP GPGPGPRESVTPRSTARLGPPPSHASADA TRCLPCPDSQKLEKECQSSEESMGNSM RSILEEDEEDEPPRVLLYHEPRSFVGM LVWHKHKKYPFWPAVVRSVRQRDKKA SVLYIEGHMNPMMKGFTVSLKSLKHFD KEKQTLNQAQREDFNQDIGWCVSLITDY RVRLGTWGAGEGWSWAAGVQPLKTPW TGWAGAAWRRGIFPWAAGIPCGWAGV LAWPDYFLNRDAGPAPGTHFLGLLGLH SALSPPPPAGCGSFAGSFLEYAADISKS TGC

3114	11165	A	406	4565	5027	LIGYILFCFFFFFFFLLRQSLVLLPGLECSG VILAHCNPR/LPGFK*FSCSLPSSWNYR HAPARPVSVFLAEMGFHHIGQAGLKL LT/SV/PPPTSA/FRKCWDYRREPPRPTAF FVLNKFVTLGNSNGF*T*DRHNHFMRLY CNYTLEYSGSHL
3115	11166	A	4060	1	2722	MERPLRGSRHPRLPVPPGVLGPSQGHIG VRPGSTLCQIIATCHMSVNDGGCKYVL CRWEKRLWPAKVTAII/RVTSGLRNDFR VTKTSVTGPSILKYLVFEPVTLNQRLLTK RQITDDQAAHCSAPIKVKSTEVEILEKSQI EAIASSLASQNEVPAAPLEELAYRRSLRV ALDVLSEGSISQESSAGTGRDNRSRLRG KPMHVSVSPCDSSSSSLPRGDVLGSSRPH RRRPCVQQSLSSSFTCEKDPECKVDHKK GLRKSENPRGPLVLPAGGGAQDESGSRI HHKNWTLASKRGGNSAQKASLCLNGSS LSEDDTERDMGSKGGSWAAPSLPSGVR EDDPCANAEGHDPGLPLGSLTAPPAPEPS ACSEPGCECPAKRPRLDGSQRPPAVQLE PMAAGAAPSFGPGPGPRESVTPRSTARL GPPPSHASADATRCCLPCPDSQKLEKECQ SSEESMGSSNSMRSILEEDEEDEEPVLL YHEPRSFVGMVLVWHKHKKYFPWPAVS WDESTRGWISRLKAAFRTIALHIPKSNAQ NRCHLTSPSLRVPGAHLRSDQPKPSGPR CPPAFRPAQAIGSPVPTCVQISPSHRVPG AHLRSDQPKPSGPRCPFEQLRAOTCAW CVSHLPEGPCARRLEPPLSGRNQAREDF NQDIGWCVSLITDYRVLGCGSFAGSFL EYAAADITSRACGALIPWATSSVLLW LVAHIRCCEECRPGASFAGYPVRKSIQ QDVLGTLKLPQLSKGSPEEPVVGCPGQR QPCRKMLPDRSRAARDRANQKLVEYIV KAKGAESHLRAILKSRKPSRWLQTLSSS QYVTCVETYLEDEGQLDLVVKYLQGVY QEVGAKVLQRTNGDRIRFILDVLLPEAI CAISAVDEVYKTAEEKYIKGPSLKLPG KRNI
3116	11167	A	4061	57	235	
3117	11168	A	4062	754	1767	WTSWWMSSVLITLLFSLQGNKMLNYS PSAGGCLDRKAVGTPAGGGFRRHSVT LPSSKFHQNLSSLLKGEPAPALSSRDSR FRDRSFEGGERLLPTQKQPGGGQVNSS RYKTTELCPFEENGACKYGDCKQFAHG IHELRLTRHPKYKTELCTRFTHTIGFCPY GPRCHFIHNAEERRALAGARDLSADRPR LQHSFSFAGFPSAAATAAATGLLDSPSTI TPPILSADDLLGSPTLPDGTNNPFAFSSQ ELASLFAPSMGLPGGGSPTTFLFRPMSES PHMFDSPPSPQDLSLSDQEGYLSSSSSSHS GSDSPTLDNSRRLPIFSRLSISDD
3118	11169	A	4063	568	715	
3119	11170	A	4064	65	347	GLPAPLPPP/PPRSLPFPAPGLRSQRFSTSA PPRHARPPPVARARAAPHPQASGRKSQ VSAPLVERAPLRAPGLTATAVVTVLGDP ACAFPLEM
3120	11171	A	4065	1648	1974	KVFFCFYRIYVCICVCVCVCV/TLQTL/C YSIANMLTSSQCLQSCGSQSWCQMHIKS SKAIMTIPCKFISRKPWEGDCSSLEPHGV SAFDIWWPQLCIKKVLNHFSPRKN



3121	11172	A	4066	12	1662	FLRGGCCFCYMTQCQRPSLRPTALLPERS VPPLPPAAPPRPVRHPPVAAPPARRCPAP APPPPPFPDDWVMLDMGDRKEVKMPK SSFSINSLVPEGLQNDNHHASHGHHNSH HPQHSHHHHHHHHHHPPPAPQPPPPRAA QQQQPPPPPLAPQAGGAAQSNDEKGPQL LLLPTDHRPPSGAKAGGCCRPGEGLGP VGPDEKEKGAGAGGEEKKGAGEGGKD GEGGKEGEKKNGKYEKPPPSYNALIM MAIRQSPEKRLTLNGIYEFIMKNFPYYRE NKQGWHNSIRDNLNLKCFVKVPRHYD DPGKGNYWMLDPSSDDVFIGGTTGKLR RRS'TTSRAKLAFKRGAA'LTSTGLTFMD RAGSLYWPMSPFLSLHHPRASSTLSYNG TTSAYPSHPMPYSSVLTQNSLGNNSHST ANGLEAWDRLVNGEIP/YTATHHLTAA ALAA'VPCGLSVPCSGTYSLNPCSVNLL AGQTSYFFPHVPHPSMTSQSSTFMSARA ASSSTSPQAPSTLPCESLRPSLPSFTTGLS GGLSDYFTHQNQGSSSNPLIH
3122	11173	A	407	187	741	TRGTSAAARTGRSSGIASMASGILVNVKE EVTCPICLELLTQPLSLDCGHSCQACLT ANHKKSMMLDKGESSCPVCRISYQENIRP NRHVANIVEKLREVKLSPEGQKVDHCA RHGEKLSNFCQEDGEGSFCWVC*AVFR EHRGSPHVSSQRRFAREYQVKLQAAL MLRQKQQAEELEADIR
3123	11174	A	4070	1	507	
3124	11175	A	4071	259	1409	FLLWRYFVFGIVTEEEKVQPTVYLIQLL DLLKAIT/SPHLEAGSKPSKKTGEKSSGS SSHSESKKEHHRKKVSGSSGELPLEDGV SHKSKKMKPLYVNTETLTLREPDGLKM KLILSPKEKGSSSVDEESFQYPSQQATV KKSSKKSARDEQGALLGHELQSFLLTA RKKHKSSSDAHSSVPGPLKGLGLDAISQ FRKSPHSANLDSLGLPILVESDSSSGGE LEAGELVIDDSSREIKKKKKSKSKKKK DKEKHKEKRHSKSKRSLGLSAVPVGEVT VTSGPPPSIPYAGAAAPPLPLPLHTDGH SEKKKKKEEKDKEREREGKMGPSWKK ISSGLPLILHDGPWKNCFPRNRYVPKRL RTADLVGLYLGSKHK
3125	11176	A	4072	436	2063	RRREVEGWYFGGFSHRRTVCICDTPDISS LESSQKKKKSSPQSTDTAMDLLKAITSP LAAGSKPSKKTGEKSSGSFKAISGELKR EHRKKVSGSSGELPLEDGGSHKSKKM KPLYVNTETLTLREPDGLKMKLILSPKEK GSSSVDEESFQYPSQQATVKKSSKKSAR DEQGALLGHELQSFLLTARKKKHSSSD AHSSPGPEGCGSDASQFAESHSANLDSL GLEPILVESDSSSGGELEAGELVIDDSYR EIKKKKKSKSKKKKDKEKHKEKRHSK SKRSLGLSAVPVGEVTVTSGPPPSIPYAG AAAPPLPLPLHTDGHSEKKKKKEEKDK ERERGEKPKKNMSAYQVFCKEYRVTI VADHPGIDFGELSKKLAEVWKQLPEKD KLIWKQAQYLQHKQNKAEATTVKRK ASSEGSMMKVASSVGVLSPOKKSPPTT MLLPASPAKAPETEPIDVAHLQLLGESL SLIGHRLQETEGMVAVSGSLSVLLDSIIC ALGPLACLTTQLPELNGCPKQVLSNTLD NIAYIMPG
3126	11177	A	4073	323	539	PFMICLVHFCAPGNPPSARPRPSPSPRCH PCAPQEGKMTHPQFRVMPAPSCYNWLL ENVPFHIQNSGVRIS
3127	11178	A	4074	27	425	GGGSGPRAPSATLLDTGESVAASGEGD KGIAASAAAAVAFACSCSPDPQSSTMN VYSPVQPGAPYGNPKNMAYTGYPATY AAPAYNPSLYPTNPSYAPATLVMMKQ

						AWPQNSSSCGTEGTFHLPVDTG
3128	11179	A	4075	1	434	
3129	11180	C	4076	117	251	MVPGPSLQNSWQASFNIPWPALPKPDLG PSPSVSPVDIFCGACC*
3130	11181	A	4077	58	313	SSKQKNPKESKTTKQNQIYTSYTQARP WGFPIFTPGLCFENTYKFFDQTTWKT LVKSSSSSSSSSPILFLFKM*VPIKFKN
3131	11182	A	4078	1	279	
3132	11183	A	4079	54	946	GGGSGPRAPSATLLDTGESVAASGSD KGIAASAAAAAVFACSCSPDQSSMTNP VYSPVQPGAPYGNPKNMAYTGYPATYP AAAPAYNPSLYPTNSPSYAPEFQFLHSA YATLLMKQAWPQNSSSCGTEGTFHLPV DTGTENRTYQASSAARYTAGTPYKVPP TQSNATPPPYSPSPNPYQTAMYPISAYP QQNLYAQGAYYTQPVYAAQPHVIHHTT VVQPNSIPSAIYPAPVAAPRTNGVAMGM VAGTTMAMSAGTLLTPQHTAIGAHVPS MPTYRAQGTPAYSYVPPHW
3133	11184	A	408	1234	1337	TRGPRGPADSCRKAWSEKAWQRGPWS WCPAAGASGGCGLHPWLW/PPEPWVE RATPT*GPCSRTPAPGSPLPGFLRPLPA AVCRPPGSPCSETVLF*EAE/PT/P*APVRI GGTFQPCAVLLPARMKVVQSSTVR*/VT VTRLPVQKVEVAGGWPGSHEKTLF/AA/ PAWGLDRKPLQAPRSQKPPNPQGTAE GQRWAHRYKCCFVSLTPCSSQLPVP*DL ASKG*PSHT*ILGSF*DLCLPA*PMLQGPC PQPLSAP*VFLFPLS*VGALIGPFLARPF SRGQLP*AWATPPWPS*PLAK/SPPDVAC SLVPGPSFSPSHPSAPVVEPHL*APGALN VLSPLDLMCIPSPASYVAAKAPQAVNGG SCHTSLPELT*PPATSCIGILRAGPCSLM GPPRPVKPW*RLACLGLNSQCLTPQPK TGSVPYGPSPAVAWVP/ERLPPPGSPPPAP IKVLPLMQACVDHVFPWPEPPPATGGQL PF
3134	11185	A	4080	1	502	RHEGGMWRAGSMSAELGVGCALRAVN ERVQQAIVARRPRDLSPSQPRLVAV/SA KTKPADMVIEAYGHGQRTFGENYVQEL LEKASNPKILSLCPEIKWHFIGHLQKQNV NKLMDGKSEFLIKRENIMPTELNSPFGV IYTWETYPTSMFIIHWSFRKIKNCS
3135	11186	A	4081	171	1184	IPILIMKLLCCHKSSGDPYHLFAKSKH STLPFSLGLGVGPRGMWRAGSMSAELG VGCALRAVNERVQQAIVARRP/RGDLPAI QPRLVAVSKTKPADMVIEAYGHGQRT FGENYVQELALEKASNPKILSLCPEIKWH FIGHLQKQNVNKLMAVFNLFMLAETVG FCECLADKVNSSWQRK\GSPERLKVMG PGFNTSREEIYLFVSLLLEGKHGLPPSETI AIVEHINAKCPNLAEFVGLAMTLG\SF GHDLSQGPNDPQQLLSLPEE/ICGKKLNPAE QVELIMGMSADFQHAVEVGSTNVRIGST IFGERDY\SKKPTPDKCAADVKAPEVA QEH
3136	11187	A	4086	1	265	AGNRLRFQLELEFVQCLANPNYLN/WYP QCLHMLELLQYEHFRKELVNAQCAKFID EQQILHWQHYSRKRMRLQALAKQQQ QNNTSGK
3137	11188	A	4087	1	987	

3138	11189	A	4088	1	491	RGFRNFARVSGLLLCQAGGVLVSSFVM AAAVAMETDDAGNRLRFQLELEFVQCY ANHNTLIFLPQRGYFKDKAFVNYLKYL LYWKDPEYAKYLYPQCLHMLGAAPN MEHFRKEAGWNAQCAKFIGWNRQVST LGKHYSRKRMRLQQAIAEQQQNNNTS GK
3139	11190	A	4089	55	858	EKGRARGRERRRKMQLTRCCFVFLVQG SLYLVICGQDDGPPGSEDPERDDHEGQP RPRVPRKRGHISPKSRPMANSTLLGLLAP PGEAWGILGQPPNRPNHSPPSAKGKKIF GWGDFYSNIKTVALNLLVTGKIVDHGN GTFSVHFQHNATGQGNISISLVPPSKAVE FHQEQQIFIEAKASKIFNCARMEWEKVER GRRTSLFTHDPAKICSRDHAQSSSTWSIC SQPFKVVVCVYIAFYSTDYRLVQKVCPCD YNYHSDTPYYPSG
3140	11191	A	409	89	596	IILKTGSSLCHPRLECSGVILVHRNLRLP GSSNSPASGSPVA*ITGARHHDRLIFVL VEMGFCYVQGAGLELLTSSDPPTSASQS AGVTGVSHCARPSFAL*F*KSA*YNLELC LFYHH*YSKCIHFHFLDYNQNLITINIE SSLIFSILLISTFYCYLAIEPR
3141	11192	A	4090	1	368	MRARNLMTKLTVISRKEELQOEAAHR EVQSLPPGEMEERSSSKTCPQVCDGRILS CMIKVPP/VGREKH*RPGRSH*HEAGCG PFTPPKVDHHEHLPPRRVEAGSRQKST TEPFPQAAGW
3142	11193	A	4091	253	536	YLASLEIPQSKVPESRPSHQVPSSQSLDSE TPPSN/RHRQPPVDRKCVCR/LPLPPPTF RPPKVDHHEHLPPRRVEAGSRQKSTTE PFPQAAGC
3143	11194	A	4096	318	543	KSSWSRWAFGTVRSPCGRQHRDIGATD NSGRSGPAEQRPQSS/ASSAMSAAGGSRL TFHPRNLPPRTPTQDSAALT
3144	11195	A	4097	42	342	ENEILEVVQLGSRVCFVHFYHLHCCRHH CPENVHAG/CFGDCLG/HGRCSIQNCFFE R*I*VG*NNVAATAVMFGLVFPLVLSLK YQVYFFKVLALMNFCS
3145	11196	A	4098	1	1289	MYERVYVSTDIAIKLCKLLNRQFDRLY KKHSTGSASGEGLKALPLIVEGEGEPCV AEITRQEREEGA/VHLFGLTWQLQVVEGE LYANGVSKGNRGTESMDTTYSPIGGKVS DKSEKKVFQKGRAIDTGEVDIGAQVMQ TIPPGFLWRFQITHHPYILKFNISLAKDSL LGIYGRNIPPHTHTQDFVKLMDGKQLV KQDSKGSDDTQHSRNLITSLQETGFIE YMDQGPWYLAIFYNDGKKMEQVFLTT AIEIMDDCSTNCNGNGECISGHCHCFPGF LGPDCARDSCPVLCGGNGEYKGHCV RHGWKGPECDVPEEQCIDPTCFGHGT MGVCICVPGYKGEICEEEDCLDPMCSNH GICVKGECHCSTGWGGVNCETPLP/EQC SGHGTFLLDAGVCSCDPKWTGSDCSTEH KGGSSRLFL
3146	11197	A	4099	1	4509	VRLEWPTDLAVNPMDNSLYVLDNNIVL QISENRRVRIIAGRPIHCQVPGIDHFLVSK VAIHSTLESARAISSHSGLLFIAETDERK VNRIQVTTNGEIIYIAGAPTDCCKIDP NCDCFSGDGGYAKDAKMKAPSSLAVSP DGTLYVADLGNVRIRTISRNOAHLNDM NIYEIASPADQELYQFTVNGTHLHTLNLI TRDYVYNFTYNSEGLGAITSSNGNSVH JRRDAGGMPLWLVVPGGQVYWLTISSN G
3147	11198	A	41	319	1002	

3148	11199	A	410	372	639	RAFWQYFKSLNMFMSFDPAILLIGIYPKE KS*IQK/DTLCEPVSEILLMVVN*YIC HTRNDQAGLIY/HLYSGIYLALK*VCEFF TLKG
3149	11200	A	4100	338	8522	SEMEQTDCKPYQPLPKVKHEMDLAYTS SSDESEDGRKPRQSYNSRETLHEYNOEL RMNYSQSRKRKEVEKSTQEMEFCEETS HTLCSGYQTDHMSVSRHGYQLEMGS DV DTETEGAASPDHALRMWIRGMKSEHSS CLSSRANSALSLTDTDHERKSDGENGFK FSPVCCDMEAQAGSTQDVQSSPHNQFTF RPLPPPPPPHACTCARKPPPAADSLQRR SMTTRSQPSPAAPAPTSTQDSVHLHNS WVLNSN
3150	11201	A	4101	139	520	LSLPLSPRLECSGTILARCNLHSPRPSKR FSCLSLPSSWDYRRAPPNLAIFLLFLV EMGFHHVGGTGLELLASNYLPTSA/FPK CWDYRHEPPCPADKTNFLSLWFIGYNIF LESEVNFFLPWDA
3151	11202	A	4102	7	497	
3152	11203	B	4103	93	182	PPPKALRRELPEEAAAEEERRKIEVPSEIE *
3153	11204	A	4104	51	394	WGGPGLKPLLMVLDPYRAVALELQANR EPDFSSLVSPSPRRMAARVFYLLLVSV CMCVCVCGAGTQRPEARTGTPPTCPLLA S*PVLSAQQILHVQKEKPYGRLLIQGPR FH
3154	11205	A	4105	427	499	
3155	11206	A	4106	796	2482	KTRGNMFYYPNVLQRHNGCFATIWL ATRGSRLVKREYLRVNVKTCCEILNYV LVRVQPPQGLPRFRSLYLSAQLQIGVI RVYSQQCQYLVEDIQHILAYRLHRAQLQ MRIDMETELPSLLPNHLAMMETLEDAP DPFFGMMSVDPRLPSFDPQIRHLEAAI PERVEEIPPEVTEPREPERIPVTVLPPEAI TILAEAEPLRMLEIEGERELPEVSRRELADL LIAEEEEAILLEIPRLPPAPAEVEGIGEA LGPEELRLTGWEPGALLMEVTPPEELRL PAPPSPERRPPVPLRRRRRRRLFWDK ETQISPEEFPRNNLQTRAHCWECPMVQ PPERTIRGPAELFRITPLSGWLPELLGL WTHCAQPPPKALRRELPEEAAAEEERR KIEVPSEIEVPREALEPSVPLMVSLEISLE AAEEKSRISLIPPEERWAWPEVEAPEAP ALPVVPEIPEVPMEMPLVLPPELELLN WKTVHRAVALELQANREPDFSSLVSP LSPRRMAARVFYLLLVLSAQQILHVQK EKP/YGRLLIQGPRFH
3156	11207	A	4107	136	423	SPEHPQLPGSLLRPPGAQIPSEWQVAEAT ALVHTLDGWSVVQTMVVSTKTPDRKLI FGKGNFEHLAKKELEAAWGVEVFDRFTV VLHILRCNARTK
3157	11208	A	4108	1	212	RPPRRVVRGRHQPHGEPVRS GAPVRVP GEDDAAQPSAAERVGPRAVPGAGFTVH QHHRGGLHRRRLRQ*RHQPHGEPVRS GAPVRVPGEDDAAQPSAAERVGPRAV PGAGFTVHQHHRGGLHRRRLRQ

3158	11209	A	4109	1	1746	AGRRTPGAAALPRGPRPLGSAGRAVLP RARASRCRPQEPRESGGAVGRREGPAGG RRTKTERKTTRRSRKMRTTRPRRSCCGE SLCCRRGPKRVCLVHPDVKGWPGKSQM TRAEWQVAEATALVHTLDGWSVVHTM VVSTKTPDRKLIFGKGNFEHLTEKIRGSP DITCVFLNVERMAAPTKELEAAWGVE GCLTAFTVVLQHLPAQNARTK/ERARLQ VALAGDARLHRSNLKRDVAHLYRGVG/ SRAYIMGSGESFH/MQLQQRLLREKEAKI RKALDRLRKRHLLRRQRTREFFVISV VGYTMCCKTTLIKALTGDAANQPRDQL FATLDVTVAHAGTLP SRMTVLYVDTIGFL SQLPHGLIESFSATLEDVAHSDLILHVR DVASHPEAELQKCSVLSTLRGLRLPAPLL DSMVEVHNKVDLVPGYSPTENVPVVS ALRGHGLQELKVELDAAVLKATGRQIL TLRVRLAGAQLNWL YKEATVQEVDP EDGAADVRIISNFPYKGFRKLFPRMN GRPQKACGVGASPALGELRRYPLCWGQ LGVRCRSVLLVWFCTRLASQPFAGMYR ACR
3159	11210	A	411	136	251	IHQEKPPNIFSVKKRHYD*PGQHDPLASA SQSAGITGV
3160	11211	B	4110	50	382	XGEQLVRQDLDAGVSEHSGDWLDQDSV SDQFSVEFEVESLDESDYSLSEEGQELSD EDDEVYQVTYVYQAGESDTSFEEDPEIS LADYWKCTSCNEMNPPLPSHCNRCWAH X*
3161	11212	A	4111	1665	1787	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
3162	11213	A	4112	1431	1553	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
3163	11214	A	4113	1740	1862	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
3164	11215	A	4114	1	752	DLDAGVSEHSGDWLDQDSVSDQFSVEF EVESLDESDYSPSEGGQELSDDEDEVYQ VTYVYQAGESDTSFEEDPEISLADYWK TSCNEMNPPLPSHCNRCWALRENNWLPE DTGKDKGEISEKAKLENSTQAEFGDVP DCKKTIVNDSRESCVEENDDKITQASQS QESSEDYSQPSTSSSIYSSQEDVKEFEREE TQDKESVESLPLNAIEPCVICQ/GST*K WLHCPWQNRSTYGLLYMCKEAKEKE
3165	11216	A	4115	426	813	SSRRFVWRAKLLCERAQSGTVYEI*QCA HRHPRHRHPGCCRHRLGYAGTAGPLAG YRPFQRHRSQSLWRAASAICVDAISMRT SRSTVRPLWPPSPARFATWSHYRLRDH GDHTRPVDLPTSQFTILL
3166	11217	A	4116	1174	1354	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPLRPAGLFKHSPGLYSQ PILT
3167	11218	A	4117	2251	2373	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
3168	11219	A	4118	1027	1193	FFFFFFFFGFLVETGFHRVSQDSL DLLTS *SSRLGLPKCWDYRHEPPRAEEGI
3169	11220	A	4119	983	1386	QEVRYRKVETLRCLLFSSCLVPVCAASP VSRPGCRFLRSSLHWPTGRLVFRQRGET FLVPEKTVLRGVASAPAKAAGRTPVPG RPRDARLRADARS*SC*RAARPRRGASG AVGARGCPRPGFPFLRSGGIFV
3170	11221	A	412	118	337	IHQEKPPNIFSVKKRHYD*PGQYKTL SLKIQILAGYSGTCLAKSLLRRVGREVIQ LALKIRAPIWKIECL

3171	11222	A	4120	6133	7646	YMLFLFLSTKGWTVIQNRQDGSVDGFR KWDPYKQGFQGNVATNTDGNKYCGLPG NEQACKIKSFYKWDFF*LKNIHCWKPV LGS*EEFPDKNVEAKDKGRKAVFSFPKF YFW*EILFCFSFRLEYWLGNDKISQLTRM GPTELLIEMEDWKGDVKVKAHYGGFTVQ NEANKYQISVKNYRGTAAGNALMDGAS\ HLMGAEHRDHPFHNGHGSFQPPYD\RD\ NDGWYVWHSLLLL*KSH*YHYSESLTIF LIATTSWALTVSHCPKLFMHHSKAFQL* GRHSYSHFTDEI*RDYVICPM SHNYPEIK LEFEHSYFLNNEHLDKYLYLYILKCV*KL SFSFPGFSDTKGCKSYSSIK*QTQSLDG LPQRPSYLSFLL*GTGGLWCISVTLCIAP KGKTTVHTSVAVFYG*SAKRNLTTVVL LITPNTFSFRLTSDPRKQCKEDGGGWW YNRCHAANPNGRYYWGGQYTWDMAK HGTDGVDVWMNWKGSWYSMRKMSM KIRPFFPQQ
3172	11223	A	4121	333	430	GRGDKPYPSPGDSWVQD*ILVQL*ICPQ EPS
3173	11224	A	4122	2	1679	
3174	11225	A	4123	42	1465	GRWPPRGRENALSKTLVDMMDMADYS AALDPAYTTLEFENVQVLTMGNDTSPSE GTNLNAPNSLGVSALCAICGDRATGKHY GASSCDGCKGFFRRSVRKNHMYSCRFSR QCVVDKDKRNQCRYCRLKKCFRAGMK KEAVQNERDRISTRSSYEDSSLPSINAL LQAEVLSRQITSPVSGINGDIRAKKIASIA DVCESMKEQLLVLEWAKYIPAFCELP DDQVALLRAHAGEHLLLGATKRSMVFK DVLLLGNDYIVPRHCPELAEMSRVSIRIL DELVLFPQELQIDDNEYAYLKAIFFDPD AKGLSDPGKIKRLRSQVQVSLEDYINDR QYDSRGRFGELLLLPTLQSIWQMIEQI QFIKLFMAKIDNLLQEMLLGGSPSDAP HAHHPLPHLMQEHMGTVIVANTMPT HLSNGQMSTPETPQSPPGSGSES YKLL PGAVATIVKPLSAIPQPTITKQEVI
3175	11226	A	4124	3	1840	
3176	11227	A	4125	6233	6874	VLIGCIPQVPPSISYSPLFWFSALGNVAEI FFCLCLGNHNSCWRTLVEVPESLCPHC *RLLV*HKS GDIWVLTQMLQLDPAALP CPPSSIVDAKGLSDPGKIKRLRSQVQVSL EDYINDRQYDSRGRFGELLLLPTLQSI WQMIEQIQFIKLFMAKIDNLLQEMLLG GPCQAQEGRGWSDSPGDRPHTVSSPLS SLASPLCRFGQVA
3177	11228	A	4126	1	1481	GFGVGAQGRAGRRVEAGRMRLSKTLV VDMMDADYSAALDPAYTTLEFENVQVL TMGNDTSPSEGTNLNAPNSLGVSALCAI CGDRATGKHYGASSCDGCKGFFRRSVR KNHMYSCRFSRQCVVDKDKRNQCRYC RLKKCFRAGMKKEAVQNERDRISTRSS YEDSSLPSINALLQAEVLSRQITSPVSGIN GDIRAKKIASIADVCEMKEQLLVLEW AKYIPAFCELPDDQVALLRAHAGEHLL LGATKRSMVFKDVLLLGNDYIVPRHCPE LAEMSRVSIRILDELVLFPQELQIDDNEY AYLKAIFFDPDAKGLSDPGKIKRLRSQV QVSLEDYINDRQYDSRGRFGELLLLPTL QSITWQMIEQIQFIKLFMAKIDNLLQEM LLGGSPSDAPHAHHPLPHLMQEHMGTV IVIVANTMPTHLSNGQMCEWPRRGQA ATPETPQSPPGSGSES YKLLPGAVATI VKPLSAIPQPTITKQEVI
3178	11229	A	4127	602	799	ENPKQENLWSQYFTLISTI*KKKSWLCI VAHADCSSTLGD*GGHIA*AQEFETSVG NIVKPPSLY

3179	11230	A	4128	646	1905	
3180	11231	A	4129	6717	7569	
3181	11232	A	413	160	437	KRDITTSLGQYGQNP*SLKIQILAGYSG TCLAKSQLRLRLRHQNRNLNGLGRGVSE QRSCHLHSWGGHSETVSKKKKKRERQQ WRQIGTCMP
3182	11233	A	4130	2	93	DFTMSHHYHSAHGTLLAPRALGNPLSL YPSNYTFPFQHSPPDCTQSYSLPPEYAT HGSSCFDITDGGNLASRALAGSCAPVSG SLPCCPTLGIPSPPLPHMKSLPTYPTPTI SMKPP*PCPGSQGPWQSAFTLPI
3183	11234	A	4131	743	955	ESDFTHEYFTHNSCLFCYNKIYINIKLSL NCNYGNYFLYIVAAHTQTYIYI*NIFCFF CHLLLTFC LGF
3184	11235	A	4132	49	313	PLRIWPC*ALFLKLSLGFSLF*FYSSFLFL SPPLC*SLPRVQYIYMYILYICIN*YTYI QVCICNGYMYSCSWCSNVWYGYTENM RT
3185	11236	A	4134	508	780	VFSFSPFSPHLSLFFSLSFSFPSPFLPSS FFTFGNHLL*ISCNPNLMYQWGIFKYK YYQCIFWLLSDF*LKYNENDMSVAFGLR TSL
3186	11237	A	4135	34	329	DRLKRKNKQSLSYLWEYNKKSNICVTQ SLEREEDDRAEKVVE*IMASNFPYLSRD VNLKIQDS*RILNWIKLKSISKYIIDLLE TKDIIRNLESSQR
3187	11238	A	4136	582	869	MCQRVQTPKSPSNPYVHSNICTQLFIAPL SIAKRWKQPKCPSAEE*INEM*YIHSME YDSAIRKNEVLHVTTWKNFENIRLMKD ASHKGLYVA
3188	11239	A	4137	285	346	AVLFYVFHIPPYLLVMTLLLYFLP*LPNQC RFSSLSHKTATAWPSITVTLF
3189	11240	A	4138	97	298	DNLTLLPRLECGGMIMAHCSLNTFSSD PAASAS*VAGTTGT*HHAWIFVFLCNWL RNRGVTVKKRS
3190	11241	A	4139	147	502	IFHSKMPISEWKL*TLWQFFKELKIELP FDPAJPLLGI*PKLAVVAPQHS
3191	11242	A	414	2	150	WLPSLLEPGLHPSNHVQGPVAGIDLGT YSCVPINRRTTPSYVALRPG
3192	11243	A	4140	435	660	NLNQHEKLSMLE*ILKSYPKILDNINDHE VSHCSKGNFKNRSKEWWCGTQDSWR LGNLKVGEFEFNDLTRNTL
3193	11244	A	4141	293	563	NVWPSSSVRGRNE*GREGRRRTQQA GLGPAPSDLWWLWSWCLQKNMSQGG ENLPAGPGSCCGREAGAGTSLEDAPF FEAQLQLH
3194	11245	A	4142	1329	1563	WPRNQPTRRPWLKDKLPVPGGLTGP PCGQGP GPPPLRPSALWSSHGPPNG EPLPRGE*YLHPSPRRTSYL
3195	11246	A	4143	304	589	RTWWTAASYFRSVGGSASNRPFIPGPY EFQLPRGHSRKGTTRSRAREPSTLWSTP AAP*RTWWTAASYFRSVGGSASNRPFSI PGPYEFQLPRGHSRKGTTEEQSGAIYT VEYACSAVKNLVDSSVYFRSVEGLLKQ AISIRDHMNASDAQHR
3196	11247	A	4144	131	690	VSPAVTTSSLSWARSDLAEGHARCPL CSGWAQHLSNEEADALSPHTRPIPTCI* SRTSSLRASTSWPTSHWPCTGCRSMCV RSLPELAQHKADNAALGRSRAREPSTLW STPAAP*RTWWTAASTSAAWRVCSNRP SASGILNASCPGPQVAPGDRPPLPFP QGPSLSCAGEPLLLAY
3197	11248	C	4145	332	421	MEEKIFSQPGMVAPT CNPSTLGGQGRWI T*
3198	11249	A	4146	685	929	KVGGAKPSLGYLRLGLRPLVFLCHIS*A GDFPRGV*LLPRRGSGVVAHTCNPSTLG GQGRQIT*GQEFKTGPVNMVKPHLY

3199	11250	C	4147	710	892	MCVCAHTCPQTSIYIHVFTHGYDCIQVT AQKCLHMCFFHIHMSTHACVDTYICIYIH VKLI*
3200	11251	A	4148	98	317	
3201	11252	A	4149	656	1037	FVQVQAHKLACKHVQGAIFYVFKEQQPE GNVFRCCQGVSTS*EHGASSEPWHPAGA GVTTSFSSPFGGDRHKFEVSGRRLPTEG LPSNSSFESFPSSIPWPFLFPQVQLSTIWG LKFQFFGDLKILP
3202	11253	A	415	1	1786	MCLLVITYSSRHVYNNLTTEEQKGRVAF SNFLAGDASLQIEPLKPSDEGRYTCKVK NSGRYVWSHVILKVLVRPSKPKCELEGE LTEGSDLTLQCESSSGTEPIVYVWQRIRE KEGEDERLPPKSRIDYNHPGRVLLQNL MSYSGLYQCTAGNEAGKESCVRVTVQ STMFGQTLQLGIDLGTYSICVGVFQQR KSPRLIANDQGNRITTPSYVAFTGH*TG WIGDAAKNQVAMNPNTNTVFNKRSD LDGRF*MNAVCPVLIMKHWALYWVGE MMLGRPQGP*KDYKGEDQKAFYPEEGC LLWVPDKD*KEICRSPNLGEELVTNAVW TVPAYFNDISQRQATKDACTIAGLNVLR IINEPTAAAIAYGLDKKVGAEARNVLIFDL GGGTFDVSILTIEDGIFEVKSTAGDTHLG GEDFDNRMVNHFAEFKRKHKKDISENK RAVRLRTACERAKRTLSSSTQASIEIDS LYEGIDFYTSITRARFEELNADLFRGTL PVEKALRDAKLKDSQIHDIVLVGGSTRIP KIQKLLQDFFNGKELNKSINPDEAVAYG AEMRQDKKELLDPDIAEDFLEEVAFDKK RMGFGGF
3203	11254	A	4150	1365	1503	LKTLQRAGCSAHACNPSTLGGQGRWII* AQEFNTSLGNVAKPCLY
3204	11255	A	4151	397	682	YSKCHKAYRMKCQLNVGLSCKCECT EWRDPCELEGQESLWGQVQLAHACNPN TLGGQGRGRIA*GQKFKNSLNNIARPHLF KKRKKISLMRWLK
3205	11256	A	4152	477	684	LYLCSALKKNQ*EPGMVTHAWNPNSTLG GKGRRTA*AQEFQTSLSNVGRACLKYIY IFKISQAWWHAFVI
3206	11257	A	4153	108	419	SHTLGGQHGRIMRSGVRDQPGQHGETPS LLKIQKKKKLPGRAGRHL*SQLLRRLRL ENRLNLGGGGGSETEIEPLPPQPG*TQ*R LPSQKQKNKLETVSKKKS
3207	11258	A	4154	175	190	DKVRVSQVRLTSRHLITLR*IRKGRGKK RGCRERNRENRGK*KYV
3208	11259	A	4156	20	430	RPQTYTMVHLTPPEKCAVTALWGKANV DEVGGEALGRLLVVYPWTHRVFETFGD VSTPDVAVMGIPNGNADGMNVLWASIDG LAHLDNLRGTATLTHEHD*D*LHVDPEIL MLLGNVLICVLAHHCVGESPSWQAA
3209	11260	A	4157	31	492	QRILQSRPFEGRVKQGVTWLLQLVGLVS ESHIGPELHLPCEECHLLVSFGVNSPE DSSPLLTEWLWTHLPFLHCLFGASGR GLQTVPPFVSTALQNVCFPQKGKAPFLL LSCATGGCSAGLRVYKLRSAPSCD*AGR TRGSSGESAPML
3210	11261	A	4158	165	433	GSGQADHPCVGVWRQNSVNPQVFLQAT G*LISASSGSINTNMAQGTAVVCFGPVYP PKAKGRARSQVTPCLTLPSKGRICKILC YLFLK
3211	11262	A	4159	132	257	
3212	11263	A	416	1	154	PQRRVARRKRAVLPSTKA*PENTPSTFTS ASMEWASRSVHLGHSKRFGNLP



3213	11264	A	4160	2	111	QLLKDSARSTLVLYPCWARVVSQKSGCCP LKVLSQRPQKGLGLLWVEAWECPGAVA RCLCHPGPLCPASGTFTVPGTEPHS*LLL RNELPSPLF*LLGQSEPEKWMLPPQGAIS ETR
3214	11265	A	4161	3	116	GWRAPTSQPGGPAQVPCSSF*KILPGQH WSSTPAGPE
3215	11266	A	4162	273	793	DSLLLIQVDTMPFTLHLRSRLPSAIRSLIL QKKPDIRNTFSMAGGAPTSQPGGPAQVP CSSF*KILPGQHWSSSTPAGPE*ARKVDAA PSRCYL RDQPKGPFKVPGTEPHS*LLRN ELPSPLF*LLGQSEPEKWMLPPQGAIS SLRDLSKCLAQNLTHDCCSGTSCPPHCS DSFPYHLAPVLAEIFEIMEKVQWRNPT GSAICPLHRPSQKPACTGLRRK
3216	11267	A	4164	212	494	FSEAQFLANVAIKAILSEEISEGKGDRRM LADHTLILTERGSEGPC*PQEV RPTVLS EWGCKCAQANCECSP*PWP HKSRAGHF PPLSLGKLL
3217	11268	A	4165	281	587	EIFFNPKREYLSLHWMDEHQCPNFIHVV GQGGLGTWQDVLQEQYNQKNFLYNISLK DKFLGWMW*LTPVIPALWEAEVGGSL PRSSKTSLGNMARSHPYKK
3218	11269	A	4166	113	564	IDRLDSAKIFGHSIFDRCEKRRPDLVSG TGTCSGSFRRVTFQPAVPGRTDSPIRTH GPNFVP*TLVEKKPPAAW*TPACDLTSK PSIGPTILVPTPKVEPGSLPTPA*DPLEPIQ SPEKK*SIVPQTGSFQTASQLTEAVPELV LVAH
3219	11270	A	4167	1173	1432	PIPVDLNLTLMFCHYFIYVYHPCLEMFST CGLLSL*AQRPSDGYFFEAFIYIILFCTMF FLNVQILYSSEKNTVFVDNHSYYTVLR
3220	11271	A	4168	75	270	QYISVVDTYLLMPRLATAIILWITN*VFE KRVAHFYHWSLMVRDRRISGVDRYYV SKGLENID
3221	11272	A	4169	271	825	SPPACLVDGQALPSSGGGLYPNSLRQGS VGQAGRGCLSWFCMVHFANPEDQFLGF QASGFLHLVLPKPPQGAATPSGSSQGGPA MFSGLPSEPPTPATPQNPHLSSTKLLCE AAAPTRGKPCPTSSIFQPWHRD GKGRA GFSASGTRGRPHLTPSPVHQGT*EASQK GPALMPPGFQPPKKGK
3222	11273	A	417	1	893	PTRPCMAGEKVEKPDTKKKPEAKKV DAGGKVKKGNLAKKPKKPKPHCSR PVLLRGIGRYSRSAMYSRKAMYKRYKYS AAKSKVEKKKKKVLATVTKPVGGDKN GGTRVVLRKMPRYPTEDVPRKLLSH GKKPFSQHVRLRASIV/TPGTILILTGR HRGKR VVFLQLASGLLLVTGPLVLRN VPLRRTHQKFVIAFTTKIDISNVKIPKHL TDAYFKKKKLRKPRHQEGEIFDTEKEKY EITEQRKIDQKAVDSQILPKIAIPQLQGY LRSVFALTNGIYPHKLVF
3223	11274	A	4170	1	211	THPPPAEAPGAEGPQ*G*AKHPSAP*APL L/PRRRARASSRPVTSVTPSSGGSFRPGTP AQQVITAVTVSA
3224	11275	A	4171	1	424	NSRVDDFVRPGGSSAAGRQMRGGGQOV PNPRPGFRGQOP*RNHPPVPA SPWALAG DAGGMLWNMMRSWPVSGRPTLNPFNK QSGPRQHEQGPGEVPDVTPEALPELPP GEPEFCRPERVMDLGLSEDHFSRPVGLFP GL
3225	11276	A	4172	1091	1421	RGHTEINKHPDHIHSPTHTCRHTFTNMH AHTHTPTYMHTHTGMFW*K*N*GSLNS RSGFK
3226	11277	A	4173	1407	1607	LSDLNGNFHSKVMTKRVNIKGNYLKNM RPGAVAHACNCSTLGGQGGQTA*AQEL ETSLGNVVRLCLY

3227	11278	A	4174	1	294	FSRPDHLNGHIKQVHTSERPHKCQVWV GSSSGLPPEPLPSDLPSWDFAPALWR/ CVPFGS*HRLFPFSKKIIPSP*KPGPSTLQQ HSDLDPAFISG
3228	11279	A	4175	560	824	FWKVGCLPWELAHPAYLLPPLGITSP*A LGFPRTGGPWPTFPPLPRVSRPSQRLG TIPT*SQPHACPLPLPHSGSRSCFHWLV K
3229	11280	A	4176	3	325	FFHVSRLNFYFFRYIKHCYFISLILVSGS RVNLLLLGLIVYCFVVFMNF*TWISHF LSFFFFFCRDGVSHCVAQAALFTPGLKC WDSRREPPRAEMFLFLT
3230	11281	A	4177	292	543	SPGTYAPKRIGKGAGNWKPGVPFRSSM WKETQPLSSRVSKVLSVSPSPPIVPVP LLPALPK*GHSPLVSPPLHRSSQGES
3231	11282	A	4178	3	367	IQMDCVLLFPAQAQISAPPLIMKTPTIS WGLEHICPSYPWNHSPSLYHRYAMGFG MFFQSGPCSSWAWKLSRTLPSLVVALSS AWPLTRG*RLDLGPPAPSSYVGFSSQASP SPSPAAQC
3232	11283	A	4179	67	283	MCAYIKIDKGNRMCTNMIYLVEGIGVT FSLTLMYKYTKLIIMLSYVKRLTLISCAF YVNLWINLYYAMFI*MCAYIKIDKGNRM YCTNMIYLVEGIGVTFSLTLMYKYTKLII MLSIVYKRLTLISCAFVYVNLWINLYYAMF IK
3233	11284	A	418	934	1272	WCILGLCTSLMSRTALFPSRHTFFA/RSH SAASKL/EKKKKEKVLATVTKPVGGDKN GGTRVVKLKMPRYPTEDVPRKLLSH GKKPFSQHVRKLRSITPGVILILTGARH RG
3234	11285	A	4180	268	467	GNRRALLRLPALGPPRSSP/DGFTPGTTA RPSILKRCMPMTPLPPDPSAAAPGTSELW TSPDSSSSSR
3235	11286	A	4181	880	1200	GNPTWFLPSYQGNSGPAEIQS*GFTPGT TARPSILKRSMPMTPLPPDPSAAAPGTSEL WTSPD*QQQQQDGKEAPQSGRHDSSSA LRPAAPEALPVSRRPPPLAA
3236	11287	A	4182	343	720	SCLLTVISFHQIKKYIYVHTQLTKAGQKE FICRLSLALTNLPPAAPPLAMAPCVSPAS RQDTVLGAGPQPPSGPAPTAPQQA*AR WQLGPPSPGPSILPPREGRPSAPSGAGWG GDLAGPSQVHF
3237	11288	A	4183	789	1015	MSLMVPLMPYGP*YLPSPPAYPIWEL PLPQRDSADVSRRLGGRGVAVERDSPTE KSNISKFLYQVACAVTHL
3238	11289	A	4184	319	471	IMWYIHIMEYI*PQKGRKILTHATI*MKL EDIMLSEISQSQKNKYCHSVI
3239	11290	A	4185	68	422	GSPSRCPAFLSSPVAARPPLTHFTGAGL LRASGEPAQLTGSVSQ*PPRAPSSGLPL KHSPHQCSAQHSGKEGLGGGTNTTREN* PSPRPLCMGAQAGRMLLLPAAVRNHVL ESGSV
3240	11291	A	4186	135	500	PPWVTPRWERGWWGVRDGTDRVRSQRQ QGLPPKLQSGWEVESWLGPRPRVFPGS VPGTPR/SPAAGGSQPRCPDARPAHKGPR APGARCGPPAPPGLPAY*PGRPR/PRP ARR*TPLTAA

3241	11292	A	4187	365	1452	IGPEVPEGCHFRSGESRGDATLAYRVESE HHLGLEGCAGNATLVQGVGRKIPCLGLR GAILGPQIAVRLGSRIMARPAAPGLSQA RSLARRGCPAAGGSQPRCPDARPAHKGP RAPGARCGPPAPPPGLPAY*PGRPRRG LHGGRRHSRRPPRRGPAAPGSPPAEVAG ASARGRAPGPPCPRPPPIPAAPRVEAG PSARPSVPAPAPASRSPRLQPPAAPWG GRASGPKDPGTAPPPTRTQSARNPSRSP PPAPSPASAGASADDPGTPWHRTGPPC QSQTRKHTGP*AARDQRQSRKDDSDPTG LCHCLRPGAPKCLKGLWFAFSVHPPWSS TPWLQSGRVNLPLAQDIFLL
3242	11293	A	4188	200	390	GPHAKSAFFPP*LSEQLGQG*QPGQTPVG RLALSVAFPPQGVGFPAAGGGTGEAFGG LACPLP
3243	11294	A	4189	805	1030	LVLCPHLSQLTKGTSHTCLTLQGGL*KL TRLALFRLGAVAHACNPSTLGGPRGPIT* CQEFKTRLANMVKPLLY
3244	11295	A	419	1	2607	MAFAWWPCLILALLSSLAASGFPRSPFR LLGVANGIEVYSTKINSKVTSRFAHNVV TMRAVNRADTAKEVSFDVELPKTAFITN FTLTIDGVTYPGNVKEKEVAKKQYEKA VSQKGTAGLVKASGRKLEKFTVSVNVA AGSKVTFELTYEELLKRHKGYEMYLK VQPKQLVKHFEIEVDIFEPQGISMLDAEA SFTINDLLGSALTCSFGKKGHVSKPSL DQQRSCPTCTDSSLNGDFTITYDVNRESP GNVQIVNGYFVHFFAPQGLPVVKNVAF VIDISGSMAGRKLEQTKEALLRIEDMQE EDYLNILFSGDVSTWKEHLVQATPENL QEARTFVKSMEDKGMTNINDGLLRGIS MLNKAREEHRIPERSTSIVIMLTDGDANV GESRPEKIQENVRNAIGGKFLYNLFGF NNLNYNFLENMALENHGFARRIYEDSD ADLQLQGFYEEVANPLLTGVEMEYPEN AILDLTQNTYQHFDYGSEIVVAGRLVDE DMNSFKADVKGHGATNDLTFTTEEDMK EMEKALQERDYIFGNIERLWAYLTIEQ LLEKRKNAHGEEKENLTARALDSLKY HFVTPLTSMVVTKEPNEDERAIDKPG EASYQPPQNPYYYVDGDPHFIIQIPEKDD ALCFNIDEAPGTVLRLLIQDAVTGLTVNG QITGDKRGSPDSKTRKTYFGKLGIANAQ MDFQVEVTTEKITCGTGRASTFSWLDT VTVTQDGLSMMINRKNMVVSFGDGVTF VVVLHQVWKKHPVHRDFLGFYVVDSDH RMSAQTHGLLGQFFQPFDFKVS DIRPGS DPTKPDATLVVKNHQLIVTRGSQKDYRK DASIGTKVVCWFVHNNGEGLIDGVHTD YIVPNLF
3245	11296	A	4190	90	417	LALILSYFYLLYLPVWHFGNSVVALSL KILNIIYVLFSSFKSLRNFSALVSIFVFCF SSFSACFSLNSKDF*NPDIKKPHVKNS RIYKTQYSKDHPQRENQFR
3246	11297	A	4191	2	672	GRVGFTPGSWEAFMVKNIVPKLGMCLG ELVINPHQQHMDAFYWVIDWEGMISVSS LVGLLEKHFFPKWLQVLCWSLNSPNYE EITKWYLGWKSMSFSDQVLAHPSVKDKL NEALDV MNRAVGSYVGAYMQPGAREV NIAYLTHERRKDFQYDAMHERRAGPQI GLLRSLGKNLKICAKKEPLEIYLWANLK EYYLAKTGQGGPPFFLTRAPEGLITAWA LWG

3247	11298	A	4192	1642	2785	RMTSSCPMADRTCPLPFSHRLIWEVWMP FVRNIVTQWQPRNCDPMVDFLDSWVHII PVWILDNILDQLIFFPKLQKEVENWNPLTD TVPIHSWIHPWLPLMQARLEPLYSPIRSK LSSALQKWHPSDSSAKLILQPWKDVFTP GSWEAFMVKNIVPKLGMCLGELVINPH QQHMDAFYWVIDWEGMISVSSLVGLLE KHFFPKWLQVLCWLSNSPNYEEI/TPK WYLGWKSMSFSDQVLAHSIWSRDKFNE ALDIMNRAVSSTVGAYKQPGARENIAYL THTERRKDFQYEAMQERRRPENMAQRG IGVAASSVPMNFKDLIETKAEHNIVFM PVIGKRHEGKQLYTFGRIVYIDRGVVFV QGEKTWVPTSLQSLIDMAK
3248	11299	A	4193	264	638	PSRTRIKTKQMATSEILPSFVATMDASNF SFWQVLCWLSNSPNYEEITKWYLGWK SMFSDQVLAHPSVKDKFNEALDIMNRA VSSNVGK*GFPFWMSWPQVSDFTHVND TESEFSGSCRQPKP
3249	11300	A	4194	2413	2707	EMHVY/WTERSGSRL*SEHFGPRWVDH */RQEFETQPGQYGDTPSLLHPLSTSCPS FLSLFSFLVTFSSSFLSLFLIYLLSRHDF LACDCFPLFLD
3250	11301	A	4195	835	1050	GSR*HNLQIIGRPRRADHLRSGV*DQPGQ HGETPVSTRNTRISQAWWTPVIPATQE AEAGESLEPGRWRLW
3251	11302	A	4196	2	112	
3252	11303	A	4197	36	172	
3253	11304	C	4198	1	1482	MVTHACNPTTIGKLEPSYVIRKFLDAQRI HNLTAYLQTLHRQSLANADHTLLNC YTKLKDSSKLEEFIKKSESEVHFDVETA IKVLRQAGYYSHALYLAENHAHHEWYL KIQLEDIKNYQEALRYIGKLPFEQAESNM KRYGKILMHHIPEQTTQLKGLCTDYRP SLEGRSDREAPGCRANSEEFIPFANNPRE LKAFLEHMSEVQPDSPQGIYDTLLELRL QNWAHEKDPQVKEKLHAEAISLLKSGRF CDVFDKALVLCQMHDQDGVLYLYEQG KLFQQIMHYHMOHEQYRQVISVCERHG EQDPSLWEQALSYFARKEEDCKEYVAA VLKHENKNLMPPLLVVQTLAHNSTATL SVIRDYLVQKLQKQSQQAQDELVRVRY REETTRIRQEIQELKARVKAMPPPGKVPR KENLWLQCEWGSCSFVCSTMEKFFEHV TQHLQQLHSGSEEEEEEEEDDPLENSV NKDIRNKSAILPSRSNC*
3254	11305	A	4199	913	1299	ELGIVGKHAPTGGAGYHFLGMAAEVL SKFTAVLEGAGTAPPATQHHRVVLADCF VFTETDCVLPHADKTTQDCRRNSVPGAT HSAPTDNRKWSGISGMTFRLWKSRLMQG PRSAWLC*ACSPHCFSLVW
3255	11306	A	42	1	818	MAGAEGAAGRQSELEPVVSLVDVLEED EELENEACAVLGGSDSEKCSYSQDKAK VNSGNKYNDNFFGLYCICKRPYPDPED VRELEVKPGVTKISTEDDGLVRNIDGIGD QEVIKPENGEHQDSTLKEDVPEQKDDV REVKVEQNSEPCAGSSSESDLQTVFKNE SLNAESKSGCKLQELKAKQLIKDTATY WPLNWRSLKCTCQDCMKMYGDLDVLF LTDEYDTVLAYENKGKIAQATDRSDPL MDTLSSMNRVQQVELIC/GIQ*FED
3256	11307	A	420	1	1842	
3257	11308	A	4200	1	587	GAEETWEPTDGGSGSAAQDGVQWCDLGS LQPLPPGLKPSSHLNLPSSGTAG*RPCAL PGKVPRKENLWLQCEWGSCSFVCSTME KFFEHVTQHLQQLHSGSEEEEEEEEDD PLEEEFSCWAGMWLLFSGQFCLTSSAM SYFHCYHTKLKQWGLQALQSQADLGPC IRGISRAGTSSLSLITSCVWGTTCGLD

						IPGISRAGTSSLISLTTCVWGTTEILR
3258	11309	A	4201	262	409	RSGGRNISSRKSITAHRSISAPGSISAQGSI PALKSILAHGSIPSQG*DTPLGWDAPMG* DALEGWDAPLG*DASRG*DTPMGRDAL SG*YVPSPTSSWANALPCHFLPQMFLPT NVMPTNPISAE LNCGRGAGWQEWMC PG LLQAPVPNHIHSCSPTASRGLRQLSSQL PETAKAAW
3259	11310	A	4202	729	922	WFETIEATQLYFNELPDTHFCVLCFLLCH FYINVKAFCSCSCC*NTCSLIFRPTV YYALML
3260	11311	B	4203	306	392	LTSGTYPKSGKAVEEAQPNSPAEDVRD R*
3261	11312	A	4204	965	1298	GNLVTAFLVLCIPDESLYRSICFLLHHQ KLHISVPQSPRWGWTSLGLAGTPRCSP PTPPRLLLPQPSRPKGATGKIPRPDRTP VRPLGHKEPRGT*GKSWPAVAQPPG
3262	11313	A	4205	1	324	
3263	11314	A	4206	310	513	
3264	11315	A	4207	65	191	QEISIMVGFKATDVPPTATVKFLGAGTA ACIADLITFPLDTAKVRLQVRG*SLGVLM VSTLFPPQHRPLKGQCLEHRDDWRWE GQHAYPCSYVLAALQIGESQGPVRATA SAQYRGVMGTILTMVRTEGPRSLYNGL VAGLQRQMSFASVRIGLYDSVKQFYTK GSEREYGARV*AGNQHHGWVQGHRC PYCHCEVSWGWHSC LHRSHHLSG YC
3265	11316	A	4208	12	237	NFKYILFKILHLGEKIYNVYTCFNNLFH CTTYILYNSTINQPKKITS*HLNKNLPCK KHSMGHYKVVFJKIFFK
3266	11317	A	4209	361	444	QRLKNNCVITCS*QRPRVFSSSPQGLAA CHYRGLRSSPQSRGRCLSHFSCQGVHPR SCQRGSAWSPRTTGQRGPTVGTGRTRK RLNTAYLLGAASADILRPISTSR
3267	11318	A	421	3	377	
3268	11319	A	4210	89	198	APP*THKWKIPHTSCDRSLSTCWHTTV DSTSLREK
3269	11320	A	4211	119	698	PTLMLHYIPWGRGRLGGWGQCGQSHSA RCAGTGTCLPMGTLMMHMEASRQVWG GCILPLFPYFLPPQLPS*LGPSNIWVAKD GWLRLDLDPP*YEWTLGVNWPSPGILAY WTVSAPSLGFGSPITDAALPCPYNLGGSS PHPRRGSRFQKTGLSLTEGNLFPFPIPT PYLPHFLHIRVWPANVEQMRCK
3270	11321	A	4212	728	916	FFFPI*SV*KVSAQG*SLWPGVAHIYHF SILGGQGGRIT*QGEFKTSLGNIVRPHLY KSGG
3271	11322	A	4216	162	528	LLPYGLDRGPYGGVWCGLPYP/SGTVST GPPQRTASPLPKQSS/GPOPPEFAACTGT DAI*DARDAGDAGEGGSS/GAEPASSPAG AAGGGCGLAARSQVPSEIRSGWLKGS LP QLASSGALVICP
3272	11323	A	4217	160	835	GGCGRRTVLVKDYQFFAEGRLIQFRWE NAAARFSALAPDMQRONFRPPTPPYPGP GGGGWGTGSNFRGTPGGGGPRTALPSR RVRGVRTTRRTGPRS*ARNGSKSLSAK RRQLSRGARFGSPSPGGYPGSYSRSPAGS QQQFGLLPRAAADPPPRVLQGHLLHLD QGVLEKKECLMSWKINFKA FKCLKIPW GWPRTQICSGYKPNNTAILKHSQAKKE DTFC

3273	11324	A	4219	198	392	
3274	11325	A	422	1	621	MTKRCLDHGEWLPGAGGGGHTGTRC LHHAPVTWVGIEVDIFEPQGISMILDAEAS FITNDLLGSALTKSFSGKKPVWLRGRHT PKGNDSEVLAGLSPCPIPLAGLTVNGQI TGDKRGSPPDSKTRKTYFGKLGIANAQM DFQVEVTTEKITLGTGRASTFSWLDTVT VTQDG*APLQGLQGGGLQGEGDHSGPQP NPGALSEPELV
3275	11326	A	4220	318	718	YHHLQGRDIPGNLRVEGSPVHPAVRPRF SASCSQPPFPPLSPHLRARARPRWERQK FTPSLDGSFWGETPAGGCGSHHPWQGP RALFRRRSQ*PRR*AHMEGRVGRSPLL HPPWEKTPS*LSGLTDRKQA
3276	11327	A	4221	1	563	ETFSHFERYLQFKAEPPLTSRGFVEKS TALHRISAEHPESMMSEVHERALQQHPQ AQGGLETREKMHADNNFTKTQDRLHA SSDAFSGLRFGSGTSRGYQRQMVPREI KSTSAKSSVVSADTAPNFSRLSNVTV MEGSPVLEVEVTGFPEPTLTWWVAYN DKP*METNSITEKNHSVSTN
3277	11328	A	4222	366	622	LSTMLHQHLLSVLLKLSQSLYVVVSFFLI QSTLQSGTRVTFLKRLQAGAVAQACN ASTLEG*GGWIARAQEFETNLGNRARC L
3278	11329	A	4223	43	245	
3279	11330	A	4224	634	1316	GSGPHSPGKWMVDDSDREHSRDVRSGR LTLMVTECLSLQEFNSMDLWDFHKYMR SHKAESSELVRNSHTCLYQGEGAHHIM RAIRQRVLRRLTRLSPEIVELIEPLQVVRYG EGGHYHAHVDSGPVYP*TICSHTKLVAN ESVPFETSCRYMTVLFYLNNTGGGETV FPVADNITYDEMSLIQDDVDLRDTRHC DKGNLRVKPQQTSSLLVPTCLMGKV GWVT
3280	11331	A	4225	506	708	FLMRSEFL*KVFPHP*HS*GFPCVCSLMS CVG*LLGEGFSTFMTFIRFFPWCSPDDS GFEIFPLIS
3281	11332	A	4226	1	1662	MIISIDA EKAFDEIQQC FMLKTLNKL GID GTYLKIIRAIYDKPTANIILNGQKLEAFPL KISTRQGCPLSPLLNFIVLEVLAIRARQEK EIKCIQLGKEEVKLSLFADDMIVYPENPI VAAQNLKLISNFSKVSGYKINVQKSQAF LYNNRQTESQIMSELPFTIASKRTKYLGI QLTRDVKDLFKENYKPLLSEIKQDTNKW KNIPCSWVGRINIMKMAILPKGIASFTGY CIPKPEVILKLETGKEPWILEEKFRSQSHL EEPSEYNNNGNSFWLNEDLIWHQKIKN WEQPFEYNECGKAFPENSLFLVHKRAYT GQKTCKYTEHGKTCYMSFFITHQQTHPR ENHYECNECGESIFEESILFEHQNVYPFS QNLNPTLIQRTHSISNIEYNECGTFFS*D RVSLCLPG*STVARSQLSAASISQVKRSS H/CLCLLSTSDYRCMPCLANLCIFCRDN CAMLPRLVNS*AQNLKLISNFSKVSGY KINVQKSQAFLYNNRQTESQIMSELPFTI ASKRTKYLGIQLTRDVKDLFKENYKPLL SEIKQDTNKWKNIPCSWVGRINIMKMAI LPKGIASFTGYCIPKPEVILKLETGKEPWI LEEKFRSQSHLEEPSEYNNNGNSFWLNE DLIWHQKIKNWEQPFEYNECGKAFPEN LFLVHKRAYTGQKTCKYTEHGKTCYMS FFITHQQTHPRENHYECNECGESIFEESIL FEHQNVYPFSQNLNPTLIQRTHSISNIEY NECGTFFSEKLALHLQQRTHPGEKPYEC HECGKTFTQNFTEHLRRHTGEKPGCNE CGKTFHQKLALIVHQRTHIRQKPYGCNE CGKSFCVKSKLIAHHRITYTGEKPYECNS GGVRPALWDERSCGYVSAGTKRAEGEV

						WKQGGEEMGSIVERLVTLSK
3282	11333	C	4227	472	681	MNHKIYVYGHTQQFLYCSYVFKRYEFY SNPTLQGFLCSPHSYFYKYLLLTGRNLAI IILNIFAQWYQSL*
3283	11334	A	4228	2	277	RAEIPTAGEVWDGAGPMGAELKPWARQ RKVEMDHVGPILLSPPGGRS*SPGPGRGR SRWTMLGPFSPRPQAAVRGPRPGVLGSP REALEPPGARHPRAVTAAPRELQCGGST VRAVAR
3284	11335	A	4229	1	240	ALLGWVFNLYKEITTTTSPFRRRSYILGF VKLYVSEHFHFFFWVLYYFL*MHCEKFY FRRCNAGRRSQIMYIVFLKSLSS
3285	11336	A	423	3	2722	FSDGLCMVALSHLGSALQLGSLCFPRSPF RLLGKRLPEGVANGIEVYSTKINSKVTS RFAHNVVTMRVNRADTAKEVSFDVEL PKTAFITNFTLTIDGVTYPGNVKEKEVAK KQYEKAVSQGKTAGLVKASGRKLEKFT VSVNVAAGSKVTFELTYEELLKRHKGK YEMYLKVQPKQLVKHFEIEVDIFEPQGIS MLDAEASFITNDLLGSALTCSFGSKKGH VSFKPSLDQQRSCPTCTDSLLNGDFTITY DVNRESPGNVQIVNGYFVHFFAPQGLPV VPKNVAFVIDISGSMAGRKLEQTKEALL RILEDMEEDYLNILFSGDVSTWKEHL VQATPENLQEARTFVKSMEDKGMTNIN DGLLRGISMLNKAREEHRIPERSTSIVIM LTDGDANVGESRPEKIQENVRNAIGGKF PLYNLGFGNNLNYNLFLENMALENHGFA RRIYEDSDADLQLQGFYEEVANPLLTGV EMEYPENAILDLTQNTYQHFDGSEIVV AGRLVDEDMNSFKADVKGHGATNDLTF TEEVDMEKEMEKALQERDYIFGNYIERL WAYLTIEQLLEKRKNAHGEEKENLTAR ALDLSLKYHFVTPLTSMVVTKEPNEDE RAIADKPGEDAEATPVSPAMSYLTSYQP PQNPYYYVDGDPH/FSIIQIPEKDDALCFN IDEAPGTVLRLIQDAVTGLTVNGQITGD KRGSPDSKTRKTYFGKTGASPMQMGF PGWEVTTTEKITLLEQARCAFFSWLDTV TVTQDGHFLASSRRLSMMINRKNMVVS FGDGVTFVVVLHQ/VCWKKHPVPTVDF LGFYVVDSHRMSAQTHGLLGQFFQPFDF

						KVSDIRPGSDPTKPDATLVVKNHQLIVT RGSQKDYRKDASIGTKVVCWFVHNNGE GLIDGVHTDYIVPNLF
3286	11337	A	4230	1508	1686	IFFQPKECLYKNL*GLGAVAHACNPSTL GG*GGWIS*VQEFETSLGNMAKPRLYKK YKN
3287	11338	A	4231	596	729	YFPNKHGILCRVQWLSL*YQPPLWESEV GVLELKSURTAWATW
3288	11339	A	4232	1212	1344	ATCLSLEKIQKLLIQNPGR*ASCDSSLL GCSPDLSSHFTVL
3289	11340	A	4233	2	114	
3290	11341	A	4234	1	326	
3291	11342	A	4235	37	199	
3292	11343	A	4236	3	263	
3293	11344	A	4237	164	298	
3294	11345	A	4238	60	152	
3295	11346	C	4239	512	805	MSSLPLMITDTQQAVSSGLWIGIPNYRVF TPTGTWVRXPHATESLHKFNLNRTWEM GLQRRVXTXGTNVKALESAQQPWNQ AGRGDNFLLWRKGGD*
3296	11347	A	424	1168	1627	RAGRGGEHKLNSYGGRRARSQGHLLS SALSPFVSAASYQPPQNPYYYVDGDPHFI IQIPEKDDALCFNIDEAPGTGLRLIQDAV TGLTVNGQITGDKRGSPDSKTRKTYFG KLGIANAQMDFQVEVTTEKITCGTGRA\ STFSWLDTVTVT
3297	11348	A	4240	1	361	EPRMLYTRYVSDPEFVISRVDDFVVLQL FRMSSLPLMITDTQQAVSSGLWIGIQIS LTQPGSTIS*YCSFFKSVIICHLMIT*YTTS SFFRPCGLASQIPESYPAGTWVRAPHAM EKLT
3298	11349	A	4241	545	865	PNNKHPYKSVTILSLCAVLFSLYIFNSGH FYFTSSIQFRHLNPKFNNLFYQTFVLRITK FL*II*QIKAEPLIVEHK*KIYKPYLFNT QVLALKLKR*GFLYIIS
3299	11350	C	4242	47	319	MVFHKARTRMKERTDTAMQAESASETN KRAHPALPPVLPXGRWARRGQEAPRP HLLSPQSGQGGQAPPWRERGVTRLKLG EGCRGRLAP*



3300	11351	A	4243	211	472	STLGGSLCAQSGCSFEPLPLRGHPAMPV KCAQPLFSSPCPPCLPRAAREGEQGEHA CWFQMHFLLALPYLCVPSSWSWLYGTP CF
3301	11352	B	4244	1	1023	MCWAPSTRGGSPALHPLLLPHPLPAR CTGFRAPAVPSSPAGIFGHIAVIGSPFPTA GGNTSDSFSNGCSQDVGSRLCGCGLLG VGIWLSVSQGNFATFSPSPSLSAANLVI AIGTIVMVTGFLGCLGAIKENKCLLSFFI SPVAELILLILFFVYMDKVNENAKKDLK EGLLLYHTENNVLKNAWNIQAEMRC CGVTDYTDWLPSAGGEHGSRLHGHRT PRAAGATAPRLCGERAAMKRSWGMAFS MTLFQHIHRTGGNHVHLGPKIFASFGA TDISSGLGGDYIICDPKEKKYRKPKREPH LQ*
3302	11353	A	4245	630	841	DTGPCWRERGVTRLKLGEGRGLAP* HLLPPPKSSSQCAPLTPTAGWLPEEKAE VCSGCPPCSPSYKP
3303	11354	A	4246	29	360	HSLISQREKESERERARESERE**RASERE RERGRDKIPTKRGGEVQFLQTIHFFLIF LTAFFEQYFKERGSYYRYRGKAKKGG RGEEKNSRSRNPSSFTGRKKRV
3304	11355	A	4247	253	451	NWSAGAALLSAAPAHTPSPHQARPTPGS PPSAALWGSPSPSRSPHFSPTDL*MRPE RHPSSAPP
3305	11356	A	4248	355	500	ARCGGMHLYSQIFGRRLWEHCLR*KVLS QVWWHAPVFADIWEVEVGALLEARSLR L*CAMLLPVNSHGPTWAMQ
3306	11357	C	4249	175	387	
3307	11358	A	425	87	508	MGCFIREGGEEGNLIKKRFVSEALADV RRKRRQEEWENVRKPEDPEECPEEVYDP RSLYERLQEQKDRKQQLRGTVSNCKN MVRGLDEDETNFLDEVSRQQLIEMHR IEEELIELNEYRIALWNVGISYENYEGRG
3308	11359	A	4250	342	608	AGSGTIGMLRPADERGGQSRGRSAHPI SQAAPCPAFLNRPFTGPS/CGPSVTSLRNT AGFCPEAGPGCPPSLAEASCLPSCRAGS HWA
3309	11360	A	4251	56	277	TVSVQRHQAVQSPVVVFTEHIPQDAWCS PSCAPGPN*PPLCPTNKPCALQQGMKPL ALKKSLGGTVCCGSKRD
3310	11361	A	4252	235	721	DLADCSLQLQSRSSWKKCSTMLQKVLV PPEAATSLSHPTPRPLPHPPALGSPLQPPS NTFGP*CCLSQDAPVFPSPVKLHLVTVPA SSLANESRKGPSRVFSRTPAPSSSITSIS DSGIQNATVWSGVRLSVSASSFGLTSPF SASGVSLSVSPLASTL
3311	11362	A	4253	1866	2283	IRILYRSPHLQLPCLTRFLVKKSYSVTGN WMVSLKD*SLRLDCWHGPNLNLVKLDEV WQNLGTSTKSL*NNFKNILGKINTFKTL FGGGMKLPCKVSFSIYLMVNLESHDST WHLQANQTPHFDVSPVLVLEFPKF
3312	11363	A	4254	2	767	ELLFDKSTMRRPFGQKASSLPPIVGSRS KSGNDRHSKSTVGSSDNSSPQLKRGK KKEDVNSEKLTCLKQNVKLKNSQETIPN SDEGIFKAGAERSETRGAAEVQEDEDTQ VEVPVDQRPÆIVDEEEDGEKANKDAEQ KEDFSGMNGDL*EEGGREATDAPEQVEE ILDHSEQQARPARVNGGTDEENGEELQQ VNNELQLVLDKERKSQAGSGQDEADV DPQRPPRPEVKITSPEENENNQNKDYA AVA

3313	11364	A	4255	79	928	TWQRCNLNCLHIPVLCSLSSSTMWDVLL PLDRGDLHLSCIDSSNWALFRCQSKVVL YHCVEADSKGLRSVLDLTLNKTNLELK MESQTEKLNLYLRNNHEEAGTTQNEFKV SVCQYLSRYGGGGYHYKRQSFHKTQSK ELMGRHRLLLTIANRHEIAELRWTLQTL ELELQAQWPLVRMLQQ*EP*ERLTC*R* RENQEPVQVVEEQPRANTKETRKKSSF SQPMSASTKEESQDGRRK GK*LKGRARE GKMLHQKSLGFKYFEGRGAGPTPSGPT VTQLK
3314	11365	A	4256	235	674	SGKQNNPQATAKAEACTETRSQMGATE TSSTFDYLGTASLKSPPHRKVVFFCFTIET SLHSNSL*ILLPLHSISNIQKQTQTSNLNIN LQPATAGPPSQAPPTALSELPGGRSAPEP SHAAFPARVPPSSGSPRPNARWAARA A
3315	11366	A	4257	60	471	CLGSLQPPPTRVKQFSYLCPLISFFFFLFF FGLFLRFSLCHRF*AV*L*CSLVLFSSCFL CLGFAMVFGSVGL*FSSSLECFQALFLQT FLLSFPLFFMNSN*PCIRLTEVVPRLSDAL FIFKNSFSCCADAWADAW
3316	11367	A	4258	392	517	MTLKDVVAHACNPNTSGGRGGWIT*GQ FKISLANMAKPRLY
3317	11368	A	4259	446	767	IWYKSTHSSVIFKCEFFLOFLSQSLALSPR HECSGAIMAHCSPLLGSSDLPASFLNFS WR*CLHYVAQPGLELLGLK*SIPPWASE SAGITGLSHHAWPKYELLLF
3318	11369	A	426	90	549	QGASQTRSETSCGLIAR*TFLGLFVRIE RIDGNLKMMLHIVEPYVTWGFNPKSVRE LILKRGQAKVKNKTIPLTDNTVIEEHLGK FGICLEDLIHEIAFPKGKHFQEISWFLRPF HLSVAHHATKNRVGFLKEMGTPGYRGE RINQLIRQLN
3319	11370	A	4260	119	342	ISICIKININIIYACYVYIILCIRIYLSKYILL ENCI*CTILFYVIFYVYIYLHIIYILLRLCPF FIYSWSPV
3320	11371	A	4261	374	471	GKK*KCPTHLSHLYINPGEKSYLFETSGL NF
3321	11372	A	4262	255	496	LYKFQTSVPLT*FIKALYITFYNSR*RG YYSKFKT*S*RPGMVAHACNPSTLGGRG GRIT*SQEFETSLANVAKPHVY
3322	11373	A	4263	231	417	CELPVTRHGAGCVCSSDTVLP*PCPFSPV SQSPSVCLSPLFSDPCEPPYPVLESPLDC SF
3323	11374	A	4264	1204	1398	ASFLAISMSVVRVGVPFYHLFFLRQSLIL SPRLVGVR*CDRG*LQPLPGYK*FSCLG LPSSWDF
3324	11375	A	4265	581	705	LLAECGAHACIPSTLGDQGRQIT*GQEFE TSLANVVKPLY
3325	11376	A	4266	3840	4074	AQEYRGQLRQYSETMSLQKKFKNRSAG CGATCL*SQLLRRLGWEDHLSPPGGRGCS EP*SHHCSPA WVTEDLSPCHP
3326	11377	A	4267	173	421	
3327	11378	A	4268	423	595	SCLSNFHLGQAQWLMPVIPALWEAKVG RSP*VRMVSIS*FRDLPASASQSAFNISH

3328	11379	B	4269	1	1224	MPTVGKAQARRRTRDTLLDITQVLIDQ SPRKDTGLAQQTGIVVPSKGIVKYWRAQ LKGDMMKYASPAFELFYFSVRAQSTDGIV TLLDPTTREDCDISSAPNPEVRTQRQAEV AGVGLLAVKVRDEEGVLGGAPGPQKR SRVCGEPTLQRRSGPLPVARPGSRCPPT SVSSPVPEDYGRVVMIRLDNPGISGRT IENNPPELEKQLPGEPSENSPYLGPPQVLF LLRDPREDVMLLNQPTTTAEKQAVLQ AAEIFRNEQQISYNTSKGKKGDRECEEIA ETPFQIGSEAVPLDNDPWNSSSSAGEWK RRHFLICILEGLERTKAKFLNCSKLSMVD QKPDENPAAFMERLREALIEQTSLSPDSV EKQLILKDKFVTQSASNIRRLKQKAIGP ISTLKNLLK*
3329	11380	A	427	215	870	RAPPNGLTQQKKKGKGLRFRLESFLHD SWRQKRDKVRLRRLEVKPHALELPDKH SLAFVVRIERIDGVSLVQRTIARLRKKI FSGVFVKVTPHNLKMLRIVEPYVTWGF NLKSVRELILKRGQAKVKNKTIPLTRH/S Q*WRSTWGKFGVICLEDLIHEIAFPKHF QEISWFLCPFHRLSGPSCYQK*SLPQGD GHTWAIGVNASQLIRQLN
3330	11381	A	4270	1016	1393	IFQLGEYIFLFLSVFEMESHVTAQAGVQ WCNLSLQPLPRFK*FSCSLPSSWDYR QMPCLANFCIFSRDGVSPCWPGWSQTP DLKRSAGLGLPKCWDYRRETTAPSMFL QNLALVPMQQR
3331	11382	A	4271	825	1246	RAEGFCPNWCCQSNILIPCHDPGSRSAQS DWACHLGWQSGSGQNHGVPAGDAL QLPGNTSRVGAPQGGSGRGRKDGPGNS H*AHGTGWRECYGDRSRKRNRQFWHL APPRSEIFLILACTLRNNGSASCPRSCFDS SFLRVPRTRGFVGSTWGVTPGI
3332	11383	C	4272	442	522	MRCASPSTSKEFSCALLQCWLDLG*
3333	11384	A	4273	322	1025	PLLCVLLAPPEGAVGDICKEDAGNMPS TSEGSYLEMAHFLRNKLAGSSVRKPD GFLWEGALRAWNMAAPSGGVNCEEFA EFQELLKVMRPIDDRIVHELNTTVPFSP AGKIDASQCKQLYESLMAAHASRDRV QKNCIAQTSVAVKNLREEREKNLDDTL LKPT*EKSQRS*KWVQSELNVVEVVNDR SWKVFNERCPNSLQASKE*IKRDSFFFF FLRTGSSHKS
3334	11385	A	4274	22	54	
3335	11386	A	4275	506	622	TRDSAHAYNPSTLGG*GGRIA*VQEFKT TRAHSYTLIPT
3336	11387	A	4276	296	495	KHVRPYITHSLGGKKDFLILEKIWLGIVA HACNPSTFRGQGGRTA*A*EFKTS LGNIV RPLCLYLT
3337	11388	A	4277	270	558	FWIFLRSFYVIRKHLIGHFHPWPRVLKC* KHGGWKVHGGPGQ*ROKGTGKEGRKG LRGRRELTEGARPLFSSGPVESTQIVPLP QPPYVGAAAS
3338	11389	A	4278	51	113	
3339	11390	A	4279	179	387	ILVGFCCLFPPPSNK**THHTHTHTHPH THPVVTNRISLQICRKKGKQKTSQGPF TSLSPLSDSAV
3340	11391	A	428	476	821	TFTWPLFVRIERIDGVSTWCREPLQDFA LRKIFSGVFCKGTPQDSKMLRIVEPYVT WGFPNLKSVRELILKRGQAKVKNKTIPL TDNTVIEHLGECYSLGVSWGRKPGSLK L
3341	11392	A	4280	464	596	EFSPGMGAYTRSPSTLEHSGQIT*AQEL ETSLANRVRPCSYMW
3342	11393	A	4281	468	564	YAFYRTQVPGGIRLV*CRLRVLWSNLIK KQS
3343	11394	A	4282	780	837	

3344	11395	A	4283	993	1050	
3345	11396	A	4284	175	387	HFGEAEAGWITRSGDRDHPG*NDETPSL LKIQNISRAWWQAPVVSATPEAEAGEW HEPQEARACSEAEFEP
3346	11397	A	4285	161	409	PPGVIIYFLVKVRLIWGNVMTV*VYMTL LSFPYPQICIYTYIKYVYILPI*NIYIYTHIC IYIPLFLCLLILAIKEGAAFNV
3347	11398	A	4286	1910	2120	SVSGFWLEAMLPSLSEGOQPCRLQPFIGN KSLTGWVAHACNPSTLGG*GKWIT*AHE FQTS LANMMKPCLY
3348	11399	A	4287	1156	1320	KNSS*FFYFLSYLKNKNRPGAVAHTFNP NTLGGGWIT*YQEFETSLANIGKPCLY
3349	11400	A	4288	1497	1767	PSASPPQVPIPALPQWTGPGRQNPL*CLH IGLCSPQPSDGPWRKACSLFQVPSHQCG RIRKKINKVHICVFTASRVRWKPKPAAA NDQL
3350	11401	C	4289	1434	1655	MKKFSHILKKKFFCTLVPIIMKLMLMENLK SQCKTKEGKYCTLAENLFHHKIHCFPSS DHRSHFSLELAVVKKL*
3351	11402	A	429	33	370	ATRSRLGKHTRRSKSSAIQAVRIISQVLR CKQRCMHCPRTIPATLQEHKSVNNPSAQ QRTKTWSIHTPAPHPHPAPHPSTHQ/HPH PST/PAPHPSTHQHLIHPHTSISSIRTRG
3352	11403	A	4290	275	485	TNWKLSLCEKLYSTHFCTDHKAVLFP*C LSCFVLLCVLFICVLFVGFRLSFCFVFTT SVISTSFFLAVS
3353	11404	A	4291	889	1199	KKCVCVVCVVCVKC*LLKMLLVGNFRA LWGSEWFLHHHLSSTNRKMLSLQGHV
3354	11405	A	4292	502	768	SPCDQTPVEEGMLPKFRKSLQGFSLNFH DILILPSQK*FCIRGSKTMYIWPGTVSHTC NPSTLGGQGGWIT*DQEFETSLANKVKP RLY
3355	11406	A	4293	3	309	IFGRDGFHHVGGAGLD*TPDLK*STHLG LPKCWDYRHEPPCLARRYFKNNNNKDN LLSHHTKTTVNILPIFSSCTDVFLHNHD VECNVFSLDLVNIFQSC
3356	11407	A	4294	204	317	
3357	11408	A	4295	1905	2032	VKHLDTGTQK*GCNAFNVGQSGPGPDAA PRWASRTPGGVNAGI
3358	11409	A	4296	2	225	KWQVTWLSFCSTFMSPPSSWSSCS/PPCSA QPYAPVSCDGPFRFPPELLD*GRLKTY FPPPCVNWGCWGQCVISQ
3359	11410	A	4297	299	663	IAHITEIRNLILHSLNNPLWLEPTRIEKFSP RGKVTSLHPRVKKMSPPSPKNSHPPEEV GSASSFLREPSPPGGSQHSPYPAPSIDAM VPPYRV*TPFGIKEDLTKPLFWGITFLL PCV
3360	11411	A	4298	1	406	MDWEGSLPLVFNYCRDASLIHPRFKGV RPRRDACLGPSPLAASPAFLGKGQTITDA ELRVTLTVEDSARLHPGEINSHVAHTKP VWWSLHTDARETTHLQRTHFQQSWLV/ CIRP/MNPAKSTVSSVRTQT*APLP
3361	11412	A	4299	236	768	VPCRESPRALALPRKEMMRA*NQNKTK HDSRHCRISPVGNMDIAENNYNSFKAEL GPNSSASTPPYNLFASPPHTCSGLQFH STITDAELRVTLTVEGNRMSVVRSSFLGL NQLKLAKSMMAAYSIFEELASLYSNFH TK
3362	11413	A	43	46	511	QLRMAGAEGAAGRQSELEPVVSLVDVL EEDEELENEACAVLGGSE/SEKCSYSQGS VKRQALYACSTCTPEGEAPAGICLACSY ECHGSHKLFELYTKRIFRCDCGNSKF*N FGMQLLP*QSK/DVNSGNKYNDNFFGLY CICKRPYPDPEDPEIPDE
3363	11414	A	430	42	334	

3364	11415	A	4300	302	897	SVAKEGVEVEVSHTCGLKWGDIRGGCE GGFGLGEKAAMRCGCSPGIVREADNLV KVSPPSVLIKKGTDLPTVTRRSASV MVLTMPLAPATFLRGNCWAGGGGLVTE *NCKPDQV*GGEMIKGL*GGG/VRGCGRI ET*LGLARRSLGRRGEVRLVWRS GTLLP KYCAFPPTVFTTARPGDPLCLAQWVPCP WSLAHC
3365	11416	A	4301	111	275	SRNETESRTRCEEGR**KDYRVEEQRLR KNWDLARPGKEQLPAFQSGNLSRQLH
3366	11417	A	4302	3	220	SLQPLSREDLGRSQSESLGPEFQGLWEW LPGELNSPICSGVPHRWDA*EESWAAG SPWPGGQISGTCSKLL
3367	11418	A	4303	2	347	LTMPLAPATFLRGNCWAGGGGLVTE*N CKPDQV*GGEMIKGL*GGG/VRGCGRIET *LGLARRSLGRRGEVRLVWRS GTLLPKY CAFPPTVFTTARPGDPLCLAQWVPCPWS LAHC
3368	11419	A	4304	2	265	
3369	11420	A	4305	3	865	
3370	11421	A	4306	288	597	TDFSVRCKGCRTPGFLRLIFQDRIVGVEL IAV/C*RHGPRFSSCRLSCRRPFDKTCRL MCHQRLSGFPQEQTQD SRCIQLLRQR FAAASCPTHQVLLQTQYF
3371	11422	A	4307	3	188	KPRRSRSSESLGPEFQGLWECLPGELNSPI SSGVPQRWDTA*EESWAAGIPWPGGQID FWHL
3372	11423	A	4308	498	803	HLGPEFQGLWEWLPGELNSPISSGVRHR WDVA*EESWAAGIPWPGGQISGTCSKLL EEEVLEELAAAVQAFGSSCVLEMWLG FVSQWRQGIATFFYYCTP
3373	11424	A	4309	3	338	KPRRSKGESSESLGPEFQGLWEWLPGELD SPISSGVPHRWDA*EESWAAGIPWPGG QISGTCSKLLGEEVLEEHLAAAVQAFGSS CVLEMWLG FVSQWRQGTATFFYYCTP
3374	11425	A	431	55	1078	SERRRGPLCLPSDSVLD CGSPPMYCGIAE PSLRRWDPQRS PLESASCRLGCLAIPRH PNFPRPIASSILQIKMATAAAAAVMA PPGCPGSCPNFAVVCFLERYGPLLDLPE LPFPELERV LQAPPDVGNGEVPKELVEL HLKLMRKIGKSVTADRWEKYLIKICQEF NSTWAWEMEKKGYLEMSVECKLALLK YLACECQFDDNLKFKNIINEEDATMRLQ PIGRDKDGLMYWYQLDQDHNVRMYIEE QDDQDGSSWK CIVRNRNELAETLALLK AQIDPVLLKNSSQD NSSRESPLEDEET KKEEETPKQEEQKESEKMKSEEQPM DLE NRS
3375	11426	C	4310	321	734	MIKHQGKAAPVRDRRQSFVSTDKTCLL CLSQKMKGIEIKRRERLKS GKEKVWLRD RERLEKRTILRASVFKGEKPAAGERGKV WSCDSIHVLQEKGSRPQISVLCILNHRKY SPRFSVWSLKPPSMKLEVRKRCQR*
3376	11427	A	4311	867	1111	RHCRYGTR/ARCRSANAGAMILTMKQL AIVMRVYQHQVRRSMRPGRNARGSGMS AVGAYYSSCIRVMTALQSCTGDDEAVL L
3377	11428	A	4312	1	560	
3378	11429	A	4313	2	268	
3379	11430	A	4314	11	783	NLFLRPQKDQTYWYHRIRLGQTKHLLKEL KVYTYLLYATISF*DV*RHC/RSAILAEAK ETKETHFIRGPKTAPVTDWEGSLPLVFN QCRDASLIHPRFKGFRPRRDACLGPSPL AASPAFLGKGQRLKTD TARLPWKPPDH HRRRASGNHSGRVQPPSRLP SWAHVEC LRLFQEHGASCQWIYRSGIWRVVFMC VRVKRPPNRLCVSNMAVYFTWVQVHYP LYENNKTLRALRMHVESLACGVRESS

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3380	11431	A	4315	177	434	LCLWLQPPF*E*IAGQVGEG*SRNETVSR TQCEEGR**KDYRVEEQRLRKNWDLAR PGEEQLVPSSEKRDPLRVKDQGRCPV V
3381	11432	A	4316	1332	1602	
3382	11433	A	4317	797	954	
3383	11434	A	4318	1	817	
3384	11435	A	4319	3	93	LSPS*AIISVPCTYTPRWPEATEDPQKK
3385	11436	A	432	1	568	
3386	11437	A	4320	874	1114	ESLGAQAEDYCRSGALTESLY*SSSKRK CGVGVPKQSLLYSTV*WSCGRGSLSRFP QNDRASSFPQYKSTEAKLPKGL
3387	11438	A	4321	264	1259	GDRWEGKKEDLGRVALGTETRKGLMC KRMPGH/AGTSDHLSILGQELFRSCRM KLK/RAI/CPAIWNYCRVCIGVKRHCRK *DA*ILQDLNNSCPKIDKWSEVPDVQAFF YTSVPS
3388	11439	A	4322	607	769	SQVLRPTQPKEHLANFKSEDSRVRLSPS *AIKSPVTCTCTSR*PEATEDPQKK
3389	11440	A	4323	495	658	GLTGTWHAHAFTHWLVLVLSHSTELSGC ERLCGPAELGTFTLWLF*RKPFADHWP
3390	11441	C	4324	218	352	
3391	11442	A	4325	444	994	PMTHPFFFFPAEVHEPNQRQAFLVPVSQ ARWTASSLFSSWVSASTSPQLEELQGST QTWHFSATCSQQPSRCVETVDPSSLLTQ QGLAFSAPTGRQAQRCSARMAWNPDP LPPPSVHPCTPHCP*GPPQPPSASTPWG SCCSRWGHQAILGCRDRERCRCGTSSRP WLPLCLLPRFPDKWS
3392	11443	C	4326	296	625	MVSEGHSTPLAKSSASELHRTSWSTDNG MDFWRECQFRAKEIQGENEALNKSSKR AQKLVSIDLNMERQVRRKYTVNAGSLH FILSLLSSIHLLKTAFCVLLQGNLTL*
3393	11444	A	4327	221	344	KVLSSDFCSVPFCVCVCVCVCVCVCVCV LTLL*NSSIYYGH
3394	11445	A	4328	441	656	AHNYIYFQRYIHIQTYTDTGRGMRIGMR DQKKRPGTVAHTCNPSTMGG*CRKTSQ GQEFKTRLSNTVRPNL
3395	11446	A	4329	409	749	RRGRERKRHTHIHTHTANLFVSFLY FLSLLHLCALCLS*WM*RCSANPILPTGP YASQTFMILPSCCTTVISLPCHWLLFPQYS QTLYSLFTELNGQITVTSAKITYTSKI
3396	11447	A	433	1	572	ANNSPALTGNSQPQHQAQAAAAAQQQQQ CGGGGATKPAVSGKQGNVLPWLGNEKT MNLNPMILTNILSSPYFKVQLYELKTYHE VVDEIYFKVTHVEPWEEKSRKTAGQTG MCGGVRGVGTGGIVSTAFCLLYKLFTLK LTRKQVMGLITHDTPYIRALGFMYIRYT QPPKDLWDWFESFLDDEEVCCQG
3397	11448	A	4330	1682	2410	LNKGGQTDIASSQTCLVGHVESDGALHT TMIGPNPAFLSPENNNCPWQRRWTH QKKKMNGMHTHRNEAETIAGILTVQE LFPRTNSTLVIDVSHSVLFCTTIQVLISQ VNHLYLPLPAFKFPVIFIIITSTGLLFTYV RVVMYNFVISYNGKKNQNI*KVICTELY FSSFLKMICMVRKRRGQPGEGRASRELC TFYTFVLCTALLILHPIMILLEPICKLLR

					KFICVYVNNIT
3398	11449	A	4331	2	57
3399	11450	A	4332	19	192
3400	11451	C	4333	218	364
3401	11452	A	4334	172	304
3402	11453	A	4335	258	509
3403	11454	A	4336	1	2411
3404	11455	A	4337	17	300
3405	11456	A	4338	257	476
3406	11457	A	4339	283	494
3407	11458	A	434	6	223
3408	11459	A	4340	766	1083
3409	11460	A	4341	2	163
3410	11461	A	4342	192	440

						YD*T
3411	11462	A	4343	1875	2210	PLSQVITGKHQKRKRHLEEGKERPEKEQ SKHKRKKSYEDTDLDKDKSIRQKREED RVKVSSGKCLKHRKKKKSP*VYPPRKK VSTGKRKRNLKKKGQKRKCFGMSLFLG F
3412	11463	C	4344	217	396	MSEETAKEVMRAYLQQLRQETGLRLCE KVFDPPQNDKPSKWWTCFVKRQFMNKS SXPGQ*
3413	11464	A	4345	1	546	
3414	11465	A	4346	216	324	VFFFSL*NEADRTLIIYITLYISECLKKLQK VIKLG
3415	11466	A	4347	71	650	NPGAAKMPAYHSLSLMDPDTKLIGNMAL LPIRSQFKGPAPRETKDITDIVDEAIYFK ANVFFQNYEIKNEADRTLIIYITLYISEC LKETAKEGNSKKPKVEERKCFITLGIH*FF PFPGEPPGFPL*RQFFAKPANKQDEVM RAYLQQLRQETGLRLCEKVFDPPQNDKPS KWWTCFVKRQFMNKSLSGPGQ
3416	11467	A	4348	552	872	SGPNCEEADAQLAEESGNASHTSFTV* VRPRRACHACNPSTLGG*GGRIA*SQEFE TNLGNTVRPCRNSEVLNRKTVSIRRAL RVFSPLHTARLHPAAAAARA
3417	11468	A	4349	199	375	FSLGGIPPFHRRGNWVSREWPGTVAHTF NPSTLEGRGRWIT*GQEFETSLTNMVK CLY
3418	11469	A	435	3	685	RTQSGNVYFASTSVPPRPGAAPGHILVLS RLQPLRAEVSRSRLLRVEYSYVKTTLV FKGTKAKSKKKSKDKK*QREDEETQL DIVGIWWTVTNFGEISGTIAIEMDKGT HALDNGLFTLGAPHKEVDEGPSPEQFT AVKLSDSRIALSGYGYLGINSDGLVV GRSDAIGPREQWEPVFKMGKMLSTSN SCFIRIWEAEDIEAKSKTAGEEEMIKIRS
3419	11470	A	4350	368	546	
3420	11471	A	4351	2	211	VYVIYKGIERSVSRAICTPSMAALVDKR WKKPKCPLMYEWINKM*YTHTMEYYTE *KRKYCSTLSHATI
3421	11472	A	4352	1	676	PK*WGFLPLIYKKGKDGGGTWGGDVL PSPSLGQGGGKKGWPKREGGRDLGAERK AGKCREKWKQSKMKGRSRKTGGERVK KPEKHQDTGLFPFQIGGGGLRLSRVCV QPQVGRGSVSLAQFLSCTSSD
3422	11473	A	4353	1029	1252	CKFVYSSLLFIYSSFFICLFIPLFPAPVLI LAH*LCKPCSSYMSWVNIQYSIYFRH FRNIVQKILYSIKM
3423	11474	A	4354	299	561	FPSWQRDAQASLTSPAPLIYPKATPFRKR PFRRQLWNKGLIQSKLTQRLYTVAHTCN PSTLGG*GRQMTWGQKFKTSLANMVKP RLY
3424	11475	A	4355	17	195	FMDAQVTFKLYIYIYTYVCTYMYIYTY V*MCEYLFYIYIYARIYMYI*MHYYTYIS LP
3425	11476	A	4356	3	565	
3426	11477	A	4357	1	597	
3427	11478	A	4358	1	567	
3428	11479	A	4359	1596	12368	
3429	11480	A	436	115	662	AGFSLSAQKSPGAMA*YSYVKSSKLVLK GTSKKKKSKKKRREDEETQFD/IVGI W*TVTNFDEISGTIAIEMDEGTIHALDN GLFTLGAPHK/ERIALKSGYGYLGINSD ELVV/GRSDAIGPREQWEPVFNQACAA VFTVIGSEKQSECSLLRESRAKYHGCTH GOISSSLKQHPRWY



3430	11481	A	4360	48	436	RTGSSSGLSISATCLISQRRYSEDCWNVY SLVRSG*ERGS*LLSTYYVLGSLPDVFTY INSFQKTYLK*MGPGMVVHAWNPNSTLG G*GRRTA*GRELETSLSNIVRCLNNNN NNNSNNEVNGIRKEG
3431	11482	A	4361	2	2551	
3432	11483	A	4362	322	1288	RKNWGLRKIPWSSLKQEQLNPESFGSKK AFFGSTWRKKDGEPEFQGS LGCP LLKAR PLLSQLPLLRAISTRKPGQTWKNKEHHL SDREFVFKEPQQVVRRAPEPRVIDREGV YEISLSPTGVS RVCLYPGFVDVKEADWIL EQLCQDVPWKQRTGIREDITYHQRLTA WYGELPYTYSRITMEPNPHWHPVLGTL* NRIEENTGHTFNSLLCNLYRNEKDSVDW HSDDEPSLGRCPHSLSFGATRTFEMRK KPPPEENG DYTYVERVKIPLDHGTLIME GATQADWQHRS AQNTTLREPRVNLTF RTVYPDRGAPW
3433	11484	A	4363	249	906	RIHFPRVSGPSQSNPKFAVASRGFFSLSL SAQPDPLPPLGEALALSLHPVRRSTET VAGDSSELQLGLRSPQQPLAGLAF LARL FLLFPPP*RCKSKPN*NDRRRSSVDSQIHL VGRESAHLPLAGLRVCVSLPLARCFGQV LQGVPLWIPSPGGS/AGVSGRRREERH MGVVVMRVRVEARVSS*ESKI/SRALR*S THLGLPKCWDYRREPPCPAH
3434	11485	A	4364	843	1186	QHSTKNSGGWAQTPYGSSQISVCVYIHT YIHIYIFFFFLVETESH SVTQAGVQWHN LSSL*PPPPGFKRFFCFSLPSSWDYRRTPP HPANFCIFSRDGVSPYWP GWSRTD LRL
3435	11486	A	4365	127	601	NLILNVTWPTQLAKQERLHLRLKTSVV WVVRKEKPTRFPRLGAVSHCPQLLILQL VLSPSTSKTLP*EPPDSESP*PKRK GKPSW GRTGAPNLHSPPLSPEGPPWAAWNPLKL PPPHSSGAVPSSACSPWAGSVPAAPPSV CYLIYWNLHSQALAH
3436	11487	A	4366	30	436	RRRCGGCFPALPGSPHKPHEQLPPLCPRV PVA*PSSSAEHPDPRAGKGGGRGL*AGS SPGAVPHPPSIPGRKNRMGSLEG/RGAP APRRGSGAGAAE/ASLTWPGSTGPAPG SHGCSAGVGPSRWAWSLPQRCGR
3437	11488	A	4367	497	924	KRGSRGWFFSTFHHLWGRLQAHLLGPT PALQPCDPGAGARTARPGQTASAAPAPL PPRRGAGAPPLRLARVPAPPCAQRAP PSSSQPGRNQ**AASGPWRPPRQAEKEA SAGKRRDRPVGARKTAAERDRRGQASG GQTR
3438	11489	C	4368	226	405	MCEKQPQNTTSFQGSYPKYTRGSLPELR QLLKVELFKKGNWEHLQPRSM LLVRSG LSQE*
3439	11490	A	4369	3	275	TSMYVGPVAKDLLHPSAEEENRKHTMK RLAQSPNSYFMEAKSP*CYKITTAFTHA QTVGWWVGCSTVLCQPTGGEARLTERC AFTRNQR
3440	11491	A	437	1	380	GPPASVRTDSGHPRRAEGAVSTRTQAD PLAPCGPPRPAGGQGAYARLLLLQCLLA AARPSSAIDGSAPDSPFTSPPLREEIMSN FSLESHNISL TEHSSMPVENNITLERPSNV NLTCQFTTSGD
3441	11492	A	4370	266	455	AQWHTSIVLAAWEAAAAGLLEPRS*SRL KCTMIHINSHCTPAWQHMRPCLLKNF SNSFISK
3442	11493	C	4371	409	507	MNTRFLT CVPGWVKNDNYSIVCIDFLV VIAI*
3443	11494	A	4372	870	1027	HLCMCVRVCVCACMCTLLHLFSNGFII* CFCTST*AIHVMG*VAIKMYINDP

3444	11495	A	4373	1	690	FHHLEDSIIEIFDAFLTLRKKRKKKHNG NMPIFSKLFHVMVNP MKISTSLFF*HKYMI VPISPOSHQYSSNGLSVLFLPVYRHSLFF MILSTLSFRCLANILSHSLFILLGLLINRSL SM*SVLLIY*Y*SYILLQYLLTVLEFFSFHI *VFSLLRILFFFKIFTFSIWMPLSQSYLLR HSVFTDVPYLI SYILICVDLFLNTLFCSIG LFILGLTQHCLNSSSFIIIVI*QSISSHLVQ* DCLCLHLCIFCALSCATKTKNKDVEIFIG LTM
3445	11496	A	4374	393	491	GLYLHRPIFPHDKLLVQLSCPFR*THRG TES
3446	11497	A	4375	435	524	
3447	11498	A	4376	293	1228	NADNSLENFCRKSASCDLEQRRFIIRFIKL RRGSFSEKQQHSVTRKYSFIQNWVLEK DNKALNTRVIYNRFLFMMYKIKQNTDD GDCRLCSYHVLDRHCKGSTCIDPFFL MTNYWCNYHAHFIDEHTEAQRARNGK QGDECEVGGIESRRRSGNSGARYVHDSS PPTSGIHSNARPSVRLFLATLSKIAFLTV SLLYEMTVHIYGEPLPRRQITQLLEGVG TLNGSVASVDPVFRNQQLHLATGSLMA SSSFCFSVLREIIGQSLIMKTL*ITHTHTH THSHTHHTERERERERETEREERVKF
3448	11499	A	4377	953	1317	VLTGVSPLYVSKGFWFFLLFS*TMFSH SPTWAILESWSSLARFSGMSGEPQMTPIG LQYLA*G*RPRNPTLVTFTEIS*VYFFILP LMSQ*MCLMHLFPLQTFQILQLYFFM AHIST
3449	11500	A	4378	9	359	PRKAELRIFEKVSVDAMAEDMEKLRPR LKKVHIRELVL AISIMPKTHKPMLTRVT WREMLRVRDLK*EVEGGCRRCSSPR/V DPPGVRREFRGGVRVRGRG/SAPGGPG LSAML
3450	11501	A	4379	223	458	CLRRINPCSPRCRRPAWRRRRPGPRTRR RTDS*IRPKSGAASHPPGGAEGIPRGQCS TRSRTRRRPEAPASRPCCLRI
3451	11502	A	438	3	217	RVMSHRKVASAPRRGSLGFLPRKRSSRH RGKVNSLPKEDLVHPLHLTCYLEDSPAF ADIVRNVYKTGGSAMN
3452	11503	A	4380	887	1172	FFPESELAQPEKRF*VPGKGRGLSPRLL PPRCRRPAWRRRRPGPRTRRTDS*IRPK SGAASHPPGGAEGIPRGCGQTRSRTRRR PEAPASRPC
3453	11504	C	4381	22	255	MPSSSAQLLLPHEVSPVLSCQLCFLKTR VCSYLWATVILGLDYCNLSLIPCLVSYFLL SLSLPCISVVVRTQILLHY*
3454	11505	A	4382	23	361	LTTLVFA GTPGKKRRGGNQWR*SPHYSC SGGTGGRPRPAFSLPGAPGQSGQISQSD WRRGPCS*SSGWCNSC/HPGWPGLVRRG MTS*WSYS*ATGP/GPGYKAIPGAS*RST SL
3455	11506	A	4383	2	310	PLLPAHPPWWSLPVTS*PRCGSPQRTSSW NRHSHRPA*SLPCLGFA GTPGKKRRGGN QWR*SPHYSCSGGTGGRPAFSLPGAP GQSGQISQSDWRRGPCS
3456	11507	A	4384	1021	1565	PHLSPAGTPLPAHPPWWSLPVTS*PRCG SPQRTSSWNRHSHRPA*SLPCLGFA GTPG KKRRGGNQWR*SPHYSCSGGTGGRPA AFSLPGAPGQSGQISVPPCRVPPLLQSR AGPSPSSFSKWELYSHHILPPLLYAHCQ ESLSNTQQRLEASLSSLNASEPTTAKCPH GTAACLLGD
3457	11508	C	4385	361	612	
3458	11509	A	4386	448	683	VNMERKKDLTESSLPVPTKVPGMRMK LS*TLKTSLATRCQTL SRLCSPTNQRLS QEGVGVGEGKELRIYLAMWIK

3459	11510	A	4387	1977	2160	VNMERKKDLTESSLPAVPTKVPGMRMK LS*TLKTSLATRCQTL SRLCSPTNQRLS QOEGV
3460	11511	A	4388	145	370	GRVLLVLCFFETESRSVA*AGVQWRHR GSLQP*ASVSYELEAAVGYGGTTALQPG RQSRALYLKTKTKNFLNLS
3461	11512	A	4389	248	452	GWVFTMLARMVLQ*NHLNPGGGGCGSEL RSHHCTPAWATE*DSVSKKKEKEKKMR NETKTKWTCSPFIT
3462	11513	A	439	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFDSFGNLSSASAIMGN PKVKAHGKKVLTSLGDAIKHLDDLKGTG AQLSELHCDKLHVDPENFKLLGNVLVT LAIHFGKEFTPEVQASWQKMVTGVASA LSSRYH
3463	11514	A	4390	141	354	ARWADWLPLGIANCPRAHLAYLETWEL EAHWKRTIVNFCVVCVCLCM*VCLVALR LFCSSGMHHSFNALQ
3464	11515	A	4391	354	592	IRCTQAFALTSVVS GPGTVAHASNPSTLG G*GGQIT*PREFKTSLGKMAKPLYKNL GRHGDLCQARLLQLAEVEGFT
3465	11516	A	4392	63	353	ATEPVWPPCLWPQPLCAKDCRGVARP* CVRPPKASLVLPSSAGNASSIFMDYKCL SPCPFKQLSSPPQSTEPSPACELGLINVN LSSRPSLPSR
3466	11517	A	4393	357	559	LILETGSVCVFQAGVK*LCTSVIIAHYSL DLLGSSNPPTS DSRVPGCGDVHLYSQVD AAANLVVVA
3467	11518	A	4394	1048	1599	CRSKWGLASILWKSFLGHHLGGDGFK A*FKFHSKFTVLASSKCLLVGF*SHNYG *VRIHLFIY*IFIHF*KDFKSMFPRLVLSSW PQAILPPWPKVLGLQVLANCIPMFHF NWLKSSKWLR
3468	11519	A	4395	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFDSFGNLSSASAIMGN PKVKAHGKKVLTSLGDAIKHLDDLKGTG AQLSELHCDKLHVDPENFKLLGNVLVT LAIHFGKEFTPEVQASWQKMVTGVASA LSSRYH
3469	11520	A	4396	38	553	APSPDAMGHFTEEDKATITSLWGKVN VEDAGGETLGRLVVYPWTQRFDSFGNL SSASAIMGNPKVKAHGKKVLTILGEMP* KHLDDLKGTFAQA*SELALVDKLAHV S*RTFKLPGEMLLVTRFWQSHFRQKNFT PEGARLSWAERWVTWSWPVALVPLPLP LKLNCP
3470	11521	A	4397	74	432	TTGTLESLSNNACFGALLPHPPAPGE* PWS*HFTRYLGPLNRCAWEGGRG*TGPG LPSLGKALVEGIPSESPGPTVSHPCSPRP DPDQSAASLHQVPPPTVHCSHLTLP WPGPQ
3471	11522	A	4398	1	176	
3472	11523	A	4399	1	188	
3473	11524	A	44	275	403	FSHFWPPEFLRD*MWLGWVAHACNPST LGGRGRWIT*GQES
3474	11525	A	440	37	527	APSPDAMGHFTEEDKATITSLWGKVN VEDAGGETLGRLVVYPWTQRFDSFGNL SSASAIMGNPKVKAHGKKVLTSLGDAIK HLG*SQGAPFAQA*SELHCDKPAWDP ENFKAPGEMLLVTRFGQSHFRKNFTPE GCKASWAERWVTGVAASALVPSRYH
3475	11526	A	4400	1	118	
3476	11527	A	4401	1	227	
3477	11528	A	4402	1	157	
3478	11529	A	4403	1	133	
3479	11530	A	4404	1	169	

3480	11531	A	4405	1	143	
3481	11532	A	4406	1	89	
3482	11533	A	4407	1	166	
3483	11534	A	4408	1	190	
3484	11535	C	4409	21	218	
3485	11536	A	441	68	398	GPASNRLGFVVLLLETRMVSAVSDPPTS TTGSTMCECISIHVGQAGVQMGNACWE LYCLEHDIQPSGTMPSHKALWSSDNSFN TFFRETQPGRHVPGLSVDLEPAVIAQ
3486	11537	A	4410	1	206	
3487	11538	A	4411	2	185	
3488	11539	C	4412	247	393	
3489	11540	A	4413	1229	1784	RCRREMGSLSHSMVDSGFLWPCWRG PGSRTSNTVENRNPPPPRHPLGQLFILFQ SLSLHLSLS/CLSLSTFFQSLFLNLSVSLC QSLPSPSL/CFSIPLSNTHHTHTHTHTHT HTHTHTHTESGRC*SVLFFPPCPYLHYR *G*GVGSAALSLTPHYEMTVFKGNLLY LPAVSIVSRVNL
3490	11541	A	4414	76	297	EIRTLRSRSQLWRRDVRWISGSCLKGH ASDHQLCQH*CTHTHTHTHTHTHTHT HTHTHTHTHTHTHTHTPKMA
3491	11542	A	4415	48	327	EELALRRQRRLAELQAKHGDPDAVAQ QEAKHREAEMRNSILAQVLDQSARARV SEQGLIEILKKVSQTEKTTTVKFNRRKV MDSDEDDDY
3492	11543	A	4416	786	905	VSEQGLIEILKK*CQLTEKTSTVKFNRRK VMDSEDDDY
3493	11544	C	4417	58	237	MAAELEALRRPEAGRAAGPNTGDPGD AAPTGSQSTGQAEMRNSILAQVSGSSPA PGPG*
3494	11545	A	4418	115	432	LSK*CNKYTIHTHTHTHTHTLLNQPL K
3495	11546	A	4419	10	398	ENTVFIGLLKQQTRNIIPLKIFCLRLKIPP LTMPSPPPSPFRKSPDLVPAHTPKEGRLW PWPGPPGGPSKAAHARRPLSTCQD*PPQ REILPGPQPTSPTHCRMSREGRSGGTGAR ACQLPLLRPLAS
3496	11547	A	442	3	398	
3497	11548	A	4420	551	792	INFFFF*IIDRFSLCHPGWTAVAQSRLTAT LLPSRFKRFLCLSLPSSWEYRPLPPYPAN FCSKLLICLSTFYKDCGNSA
3498	11549	A	4421	56	193	
3499	11550	A	4422	1	3552	
3500	11551	A	4423	373	593	KKSLESINSRLQLVMKSGKYVLGYKQTL KMIRQGKAKLVILANNWPALR*SKRLNV LRLPRIHRERIYRSVNL
3501	11552	A	4424	118	206	VGGRPRSLRQGRWVARKEDEKSRWESI NSRLAQLVMKSGKYCPWGTSETLKMIR QIGKAKLVILANNCPALRKSEIEYYAMLE KTVGVHHYSGNNIELGTACGKYRVC LVAIDSGGL*PFI*KACPEQTW*KEDEKS RWESINS
3502	11553	A	4425	1134	1287	HGQINQMEVNLPMDRKV*THHTHTHT HTHTHTHSSTSCPYTLKRNVKS
3503	11554	A	4426	102	443	SPIIPLPITTINILVYVLLAFLCIYHT*IYLY IIFFTNIVSYTYCFITCVFHLIYIVNIIVY SLKNFTDITCSLWKIRSYRYAKRKYNC KSHLPEINAFILWQVSFQTL
3504	11555	A	4427	263	615	LVNVEGNIWVKLCHELQHGFLNSSFLLIL LSHSEKINRASIMLKRYKLNNYILSAF NPPPGKIHTHTHTHTHTHTHTHTESQKVK ST*EIT*IFPQQYTNLQREEHCYFLSHSE
3505	11556	A	4428	839	963	CVNGLVLGQAQLLRPVIPAL*EAEAGRL LEPRSSRSWANM

3506	11557	A	4429	526	710	MGVWLNILTPTFGDQSAKLGTLQFKPAR HEFSQSGRTSFPIMPSPRLPDVA*ENPNG SLDP
3507	11558	A	443	1	255	
3508	11559	A	4430	2	539	
3509	11560	A	4431	920	1110	TAVVFLNKLQLHF*KFLSEAFDNEYGIA YNSLSSEILERLQKIDAPPSASVEWCRKC FGAPLI
3510	11561	A	4432	38	571	GSHRRCFSITNYVHLYIFTLYIYIYIYIY IYIYTQMHSPPAHSVT*LYGNTLSATLE RPVTPAVVAVGFRVRSEKQLIVYEGARP RG
3511	11562	A	4433	145	675	NVAVASLSGAHTWKKQSQVCFVSAGLE TSMEAAIGDLSVFPGLTQLEGIQGLVEP VQA*ASSWSSR*AAHSQGGHPSPYHRSH LPKPTQRNPERSQMEAPSPKPLDQPVPE KRHRGASAMRRRKPIISFGFLAEMLHVLA VREIELTNCPHPEPNLATGKMTWLRSSS GFCESNRVT
3512	11563	A	4434	328	333	AFEFKRIDILTFKSSFAGSL*E*LHTHTHT HTHTHTNTCFLTMKELSNHPGNK
3513	11564	A	4435	1461	1710	SGVLGRAALLKPPSRARSSGGSSLSILR LSSPGPLSSPLPCPTSQDRGIPFQTHLN VALT*AAHEMDWREPCVKTRTGS
3514	11565	A	4439	3	451	
3515	11566	A	444	2	732	YLVSCFRDMAFNFGAPSGTSGTAAATA APGIGFGGFTTSTTAGSAFSPAPTNTG TTGLFGGTQNKGFGTGFGTTTGTSTG LGTGLGTGLFGGFNTQQQQQTAVGYS CMPNKKDEGLVVLVFNKETEIRSQQQ QLVESLHKVLGGNQTLTVNVEGKTLP DDQTEVVIYVVERSPNGTSRRVPATTLY AHFEQANIKTQLQQLGVTLMSRTELSP AQIKQLLQNPAGMFLESQSS
3516	11567	A	4440	26	529	NSTDSETHPWLLSPADKVTNVKAWGA KVGAGAGEYGAEALERMFLSFPTTKITY FPHFDLSHGFAQVKGHGKIKVADALT KAVAHVDDMPKRRCP*SDLHAHKLAR VPGSTFKLLSHLPCLGEPWAAHLPRPS FNPWRLQRLPWGQSLGFLKHRCLNLP NTR
3517	11568	A	4441	294	600	ISCFCLSETLSNFALFLKESNGPVKVWGS IK/AMTENLHGFBVHEFGDNTAGRVLCF FLECIWEL*FII*LFLLLINR/CTSAGPHFN PLSRKHGGPKDEER
3518	11569	A	4442	517	758	
3519	11570	A	4443	80	725	SPAASGGFPLQSLPRTLGRGLSDFGDRS PVCVLKGRPKCRGIINFQKCRESNGP VKVWGSH/KGLT*KALHGFHVHEFGD NTARLYQVQGPFFNPLSQKTTVGPKDE ESHC*DLGQCDCLTKNGVADVSNEFV NLTLQGDHCHNGRTLVPVWKKPDDLGP KVGNEESSKTGNAGKSVWPCGVIGIA RINIPLGCSLRPPKLCVSC
3520	11571	A	4444	415	635	
3521	11572	A	4445	2	478	MAGKQAVSASGKWLMGIRKWYYNAAE FNKLGLMRDDTIYEDEDVKEAIRRLPEN LYNDRMFRIKRALDNLKHQILPKEQWT KYE/EGLCSSSALCFLLR*KDQPIECPSR SQEELL*SKLSPL*TAFET*AKENFYLEPY LKVEVIRERKEREWAKK
3522	11573	A	4446	323	400	
3523	11574	A	4447	2	396	RPPTTTKFAAARQMAGKQAV*STQAKG LNG/IFKKWYYNAARIQNLGLMRDDT IYAEDEDVKRSP*EDFPENLYNDRMFRH* EGHWTNLKHQILPKEQWTNFEENFY LEPYLKE/VLFRERKEREWAKK

3524	11575	A	4448	3	314	
3525	11576	A	4449	5	340	GGTSAKAFRSIWGPLPPVHRHGSRRSSV QR/DGPGLGTGEPRVYIRNKVANTGVPG APGPSIGGVTAPATDYCHRIAPILAARRR RRRRRRRRRRRRRRGGGGGVAGGGGGG G
3526	11577	A	445	2	681	AREGSALRVAGVTYLVS CFRDMAFNFG APSGTCGTAAATAAPA/GNTFLLFGGGF GGFGTTSTTAGSAFSFSAPTNTGTTGLFG GTQNKGF GFGTGFGTTTGTSTGLTGLG TGLGFGGFNTQQQQQQTTLGGLFSQPT QAPTQSNQLINTASALSAPTLLGDERDAI LAKWNQLQAFWGTGKG YFNNNIPPVEF TQENPFCRFKAVGYSCMPSNKDEDGLV VLVFK
3527	11578	A	4450	1	117	
3528	11579	A	4451	1	1973	DGGARARGRAAARRRRRRRRRRRRRRR RRRRRRRRRRRRRRRRRLGLERPQTSRGR APGASRAEEKMEELVVEVRGSNGAFYK AFVKDVHEDSITVAFENNWPDRQIPFH DVRFPFPPVGYNKDINESDEVEVYSRANE KEPCCWWLAKVRMIKGEFYVIEYAACD ATYNEIVTIERLRVSNPNKPKATKDTFHKI KLDVPEDLRQMCakeAAHKDFKKAVG AFSVTYDPENYQLVILSINEVTSKRAHM LIDMHFRSLRTKLSLIMRNEEASKQLESS RQLASRFHEQFIVREDLMGLAIGTHGANI QQARKVPGVTAIDLDEDTCTFHIYGEDQ DAVKKARSFLEFAEDVIQVPRNLVVIGK NGKLIQEI VDKSGVVRVRIEAENEKNVP QEEEIMPPNSLPSNNSRVGPNAPEEKKHL DIKENSTHFSQPNSTKVQRGMVPFVVG TKDSIANATVLLDYHLNLYLKEVDQLRLE RLQIDEQLRQIGASSRPPPNRTDKEKSYV TDDGQGMGRGSRPYRNRGHGRRGPGYT SGTNSEASNASETESDHRDELSDWSLAP TEERESFLRRGDGRRRRGGGGKGQGGGR GRGGGFKGNDHDSRTDNRPRNPREAKG RTTDGSLQNTSSEGSRLRTGKDRNQKKE KPDSDVGQQPLVNGVP
3529	11580	A	4452	1	2115	
3530	11581	A	4453	2	424	
3531	11582	A	4454	1	456	RPRRPQREPTMVLSPADKTNVKAAWGK VGAHAGEYGAEALERCFLSHHQDLLS HFDLSHGSSQVKGHGKKVADALTNAV HVDDMPNALSALSDLHAHKL RVPVNF KLLSHCLLVTLAAHLPAEFTPAVHAFLD KFLASVSTVLTSKYR
3532	11583	A	4455	25	640	EFHRLRENPPWCLSPA DTKAQRPPRLK LGAHA/GEYGGEPLERMFSLFPTTKDLLP ALRP*ATVSAQG*RAHGK/VADALTIN AVA/HVD/DMPQTALSAPERTCNGAQAF GWDPVQLSSS*SHLPCLGEPWAAHLPRP SSTPGGCKASLGTKFPGLFVEAPLLEPSK LPLKLGSLRVGHCFAPLGLPPSPSPSCT RTPVVFE
3533	11584	A	4456	906	1046	PDHNNWSQ*TTTGAQRQT*KRTVKEV*S AHNEAMCFGTCASDCLYR
3534	11585	A	4457	1	383	MVLMPVVS AIPAEAEAKSSLIENDVCLSA KENHKS KRAITRTAERFPTE/SPHD/YPRK TARTGLRHAQQASLPNWSTPLAARIAP VPPAANPQGVLLKSAGPHLLLARTTTC NR*VPIASPQTTHRME
3535	11586	A	4458	1	1509	
3536	11587	A	4459	579	919	PGSM/IPLSVSHSTGDDGRSLPKRRSTAPS MTSVYCFNCERCLVSCSLLLLSSLGPPCL AVLLAPFFAPFF*VFLLCVVVAGLPALLL LLVSSLLFLVLLSFCAASACFGFLSV

3537	11588	A	446	1	459	HRRPLYPAGIARMTRGDRTRTGCTRPKG SRTGGAVGAAMQEIIIGSVDHKFDLEIAV EQQLGAQPLPFPMD/KTPDSQAPISTVW GLLLPSLGLRSSLPRIFGPLRLFESGA CEFFLKAACGKGGMCPFRHISGEKTVVC KHCLRGLCMN
3538	11589	A	4460	1477	1691	YCNVSFGANLERA*TSFSALFIDLQPPGY RTTTSKHKVSSSLIKGHVLLDHSFHDNT QLWISTNAFRFGN
3539	11590	A	4461	1076	1354	QQKCAVNLHSFLPITKLCRLFASCRAAR CCSHLTSQPVTA*LAGKVNPLPLGNLWE CDTKAGSQAMRTHLSITWRAVMQLPVI NTTYQRGKR
3540	11591	A	4462	880	1242	
3541	11592	A	4463	832	1386	
3542	11593	A	4464	46	492	HPVTLGDNTYRTHIKQLIKGEVLFHFTP DAVDVFRIT/MTLPL*RLQLSSQRADDQ RTLRCVSRGRDAVHAHVWQFVCIRLD/E VTEAVIFQPPQLSDSETVSQRCVDVGTL FCRQYTFIFRRIFYAQMSNTLRLFDDYA EEIIDHRQ
3543	11594	A	4465	7259	7441	IASPGWS*RQECSSRSCAQCCQSTTTTCR HAKQRLALAHKPLAKLAGNGITPRLRQ ICR
3544	11595	A	4466	538	1056	
3545	11596	A	4467	1	1134	
3546	11597	A	4468	745	1263	
3547	11598	A	4469	3506	3826	EVWRPARRSRDVSCSRSHAYVVPGTA DWLWPS*RPSTTGVC*PVTWRWLEGQ WPHLGRVLQEDSDSPFPSALGIQETRP EPLKSPREVPTSGRTGVFHYPA
3548	11599	A	447	1	811	DGTMEDSEAVQMATALIEQRLAQEEEN EKLRGDARQKLPMDLLVLEDEKHHGAQ SAALQKVKGQERVKRTSLDLRREIHDVG GIQNLIELARKKRKQKKRDLAASHEPPP EPEEITGPVDEETFLKAAVEGKMKVIEKF LADGGSADTCQFRRTALHRASLEGHM EILEKLLDNGATVDFQDRLDCTAMHWA CRGGHLEVVKLLQSHGADTNVRDKLLS TPLHGAVRTGQVEIGEHLGLLENNAR NREGDTALHDAGRNVNRYPILO
3549	11600	A	4470	1	751	
3550	11601	A	4471	482	1200	VFSGPFSGVGFPPFSGLCPCELSATVLEV APLLPGNRMSSRITMLSESCQRMVIVG YGRCFADRQNLMLVCLRSMPNVFTGSCA RMRCCLSEN/LPVPPSKRAHTGRVAVKE SNQRWCSDGFECCDNGERLRVTFALD CCDREALHWAVTTGGFNSETVQDVMLG AVERRFNGNDLPSSPVEWREGVFNIDE EFGNESAQTMGLHHQLDPSVEGELHQN TGSTACCRADSTHISHWRFM
3551	11602	A	4472	1271	1681	TVITTGIGRPFSMESVFALNALQNSMMF TPC*PRAGPTGGLGCTSFSDPILDGWPP QSSQLMIRMCFSVYTMLESCQGMVIVG YGRCFADRQNLMLVCLRSMPNVFTGSCA RMRCCLSENLLYRHRNGHIQAEWP
3552	11603	A	4473	739	1257	
3553	11604	A	4474	1	2661	
3554	11605	A	4475	1	2370	
3555	11606	A	4476	421	972	
3556	11607	A	4477	766	1073	HRQLVIVFQQPLVSGFHEAELSLDDAKW VLHGPDPAGFHVFDVDGRFVLA*CCFK VLTLPGRSAISQSTPPRPAPRAVAPLGS HRLRQIAPLHAADYPAD

3557	11608	A	4478	1662	2045	PTALAAFSRRIVRITFLPVGDPGFHQSGS LRLS/NPDALQIQPACRIFSSALITSVFACS VHEGE*LPVDPGHIRALLHR*R*KAESAC AVPCI*AWTDREYGCHNRRKSGVILRRT DDWMDGRRSRHT
3558	11609	A	4479	1	1803	
3559	11610	A	448	100	1532	EARRNWGAMGKARRSPGHRHCEGCF NRHCHIPVEPNTSCLVISCHLLCGATFHM CKEAEHQLLCPLEQVPCLNSEYGCPLSM YRHLAKHLQACPASVVCSSMEWNRW PNVDSETTLHENIMKETPSEECDDTALAL QDQKVLFRSLKMVELFPETREATEEEPT MNGETSVEEMGGAVGGVDIGLVPHGLS ATNGEMAELSQEEREVLAKTKEGMDLV KFGQWENIFSKEHAASALTNSSASCESK NKNDSEKEQISSGHNMVVEGEGAPKKKEP QENQKQDVRTAMETTGLAPWQDGV ERLKTAVDAKDYNMVLVHNGRMLIHF GQMPACTPKERDFVYGKLEAEQVKTV YTFKVPVSYCGKRARLGDAMLSCKPSE HKAVDTSDLGITVEDLPKSDLIKTTLQCA LERELKGHVISESRSIDGLFMDFATQTYN FEPEQISSGTELADLTAATPGGLHVELHS ECVTKRHN
3560	11611	A	4484	875	1075	
3561	11612	A	4485	2097	2179	
3562	11613	A	4486	4274	5255	HTLFGDKLCTVATLRETYGEMADCCAK QEPERNECFQHKDDNPPLRLVRPEVD VMCTAFHDNGETFLKK*VIRCL*FKIKK HGVTP*ANTL*KLP*QKYFQH*DLEVLL* *FFKEVVFDTKFYTAKNMIKDILKFIET GYNLSQKFKIDKFFNVFRRYVYMVVID FVLVSNIILPKFNHLCTHTHTHTLTLFST YLKNDRDKTIMCKLSLIG*LAESLEFGGS GENVDYNYFCNIVCYRK/ADCFSFLKFR YLYEIARRHPYFYAPELLFAKRYKAAF TECCQAADKAAACLLPKVLCTRIEKSLL SNLILSILWLDLGTLSV
3563	11614	C	4487	102	230	MFLSCRSVXXXXXXXXXXXXXXXXXSPLF LSPLLFLLFHTYMRA*
3564	11615	A	4488	2	567	
3565	11616	A	4489	125	522	
3566	11617	A	449	124	602	WATTPFQPKSNSKMAELFMECEEELEP WQKKVKEVEDDDDDDEPIFVGEISSKPAI SNILNRVNPSSYSRGLKNGALSRGITA KPTSQHYTNPTSNPVPASPIKFHPESRSS DSSVIVQPFSPVSVSKTIRPAQGSIGCCL SISTVPSYNSGLS
3567	11618	A	4490	195	473	
3568	11619	A	4491	1	966	
3569	11620	A	4492	1	960	
3570	11621	A	4493	1743	1935	



3571	11622	A	4494	1	1540	NSGGSGGGTSGSGSSSGQGMQSQSG GHGPGGGKKDDKDDKKKYEPVPTRVG KKKKKTKGPDAAASKLPLVTPHTQCRLK LLKLERIKDYLLMEEEFIRNQEOMKPLEE KQEEERSKVDDLGRTPMSVGTLEEIIDD NHAIVSTSVGSEHYVVSILSFVDKDLLEPG CSVLLNHKVHAVIGVLMDDTDPLVTVM KVEKAPQETYADIGGLDNQIQEIKESVEL PLTHPEYYEEMGIKPPKGVILLVPPGNTG KTFLPKAVANQTSATFLRVVGSSELIQKY LGDGPKT/LSRELFRVSEELAPSLRFIDRI LPPLGHKRYD\SNS\GVRRELQRTMLELE LLNPVGMGDFS*GRL*KLSWATNR\ETL\A DPALIRPRPAFDSKIEFPLHDEKTKKRIF QIHTSRMTLADDVPLDDLIHGLKIDLS\A GA*HSRAICTEAGLMGL*GERRMKVTN EDFKKSKENVLYKKQEGTPEGVVSLMN HGLSSGKWLGDIPSIPERDEVGGSCPEESL FPLIFY
3572	11623	A	4495	125	320	
3573	11624	A	4496	1376	1509	
3574	11625	A	4497	2120	2313	
3575	11626	A	4498	2	266	
3576	11627	A	4499	918	1475	
3577	11628	A	45	2	343	NLCQVFIPFLFHSLLYVFKTLKGLFQASF LGHLLLLPLSGTPGRPGGGGAGGSGRGD PPAAGASRTIPWPLLLQLSSSSSHFKA/P SKLSSHG*PRALGPPGPYHRPPSPGTT
3578	11629	A	450	1	368	ICRFNPYVFLAAKADQLQVRTTQLT/CKS CWLYHCINHSTLQTCNISTL/M/LGHIPG LWILINLSEPWDATPVWHFVKLLLTKL HHACRASGNIFAIVSLVTLITSAVMSSVA LHSSVQMAQ
3579	11630	A	4500	1	822	
3580	11631	A	4501	158	668	
3581	11632	B	4502	151	336	ANSDSMVGYVLGPFFLITLVGVVAVG GPAAHLLPMYSYDPAEELHEAEQELLS DMGDPKV*
3582	11633	A	4503	748	949	
3583	11634	A	4504	1139	1241	
3584	11635	A	4507	41	488	
3585	11636	C	4508	187	342	MICKNKNKVILLXXXXXXXXXXXXXGG AXXXXXTTPRRRGKKQFFLPPKQ*
3586	11637	A	4509	1304	1434	
3587	11638	A	451	126	373	GRGTSKILMALQRTHSLLLLLLTLLGLG LAYPSYGHVLYVHRVVADNGHLEETLV MDRCLSVMILLRIISRDDCERLIGLA
3588	11639	A	4510	1	1383	
3589	11640	A	4511	1	674	
3590	11641	A	4512	19	249	
3591	11642	A	4513	1000	1174	
3592	11643	B	4514	60	378	NAVLEADFAKRGYKLPKVRKTGTIAG VVYKDGIVLGADTRATEGMVVADKNCS KIHFI PNICYCGAGTAADTDMTTQLISS LAAMAVFEDKFRPDMEEEAKNLX*
3593	11644	A	4515	1	437	DPRATEGMVVADKTCQKSTGRPELV AIRMLKQMLFRYQGYIGAALVLGGVDV TGP/HLYSIYPHGSTDIAAGIFNDLGSGSN IDLCVISKNKLDLFRPYTVPNKKGTRLGR YRCEKGTTAVLTEKITPLEIEVLEETVQT MDTS
3594	11645	A	4516	1	1059	
3595	11646	A	4517	1115	1307	

3596	11647	A	4518	3	866	FLGKMAAVSVYAPPVGGFSFDCNCRRA VLEADFAKRGYKLPKPRKTGTITAGVV YKDGIVLGADTRATEGMVVADKNCISKI HFISPNIYCCGAGTAADTAMTITQLISSN LKLHSLASTGRNLPVVTANRMLKQMLF RYQGYIGAALVLGGVDVTGPHLYSIPPI HGSTEKVPYVTHGFLAPLAAMALFER* V*APDMEEEEAKNLVSEDSPPQFPSPSW RIFNDLGSRKPNIDPLSSARNKLGFSPP HTQLPNKKGTRLGWP/RYRCEKG/TTAV LTEKIPLLWST
3597	11648	A	4519	4	181	
3598	11649	B	452	1	1812	MPSPLFFVATIHDCELETTETGPS LQDVPLEKADATVFTDGSSFLEQGVKRA GAAVTTETDVLWAHALPANTSQAQKEL IALTQALRWGKDINVDTSRYAFATVHV HGAICQERRLLTSAEKAIKNKNPPSSKPN RSSSSLGNNLRPDGSMYMHRSKGVPAV SVNVNITPSESLNLESSCVTKKLSPEKEI YEMESLQWENMGKRINHHLQYNGLD NMECKGNLEGQEAQEGLYMCVKITCE EKATESHSTSTFHRIPTKEKLYKSPNPS QDTGYSQHHTRTTFSKRQPKNCERFPVE GRPLTLPAQTSXGYSGSKPDVITLLEQK EPCVVARDVTRRQCPAPMVDSLIARV GVMARGNAITLPVCGRDVKFTLEVLRG DSVEKTSRVWSGNERDQELLTEDALDD LIPFLLTGQQTAFGRRVSGVIEADGSR RRKAAALTESDYRVLVGELDDEQMAAL SRLGNDYRPTSAYERGQRYASRLQNEFA GNISALADADNISRKNNITRCINTAKLPKS VVALFSPHGDYLPVPQAKGNNVVITSY MTNRGFFEDKKATFAPSFLMNIKGNKTS VVKNSILEQQQLTVN*
3599	11650	A	453	305	1088	NHWPMHLVTFRDVAIDFSQKEWECLDT TQRKLSRDVMLENNYNNLGLTG/SDILGS KPVVITLLEQKKEPCVVARVDVTGRQCPG LLSRHKTCKLSSEKDIHEISLSKESIEKSK TLRLKGSIFRNEWQNKSEFEGQQLKER SISQKKNSLKKMSADRKRPSFTLNQRIHN SEKSCDSHLVQHGKIDSDVKHDCKECGS TFNNVYQLTLHQKIHTGEKSCKCEKCGK VFHSYQLTLHQRFTGEKPYECQECGK TFTLYP
3600	11651	A	4538	1511	1687	
3601	11652	A	4539	425	619	
3602	11653	A	454	1	2088	
3603	11654	A	4540	122	621	
3604	11655	A	4541	2315	2790	AATTPALRPLRRSSFLMATTITKASTGT WSSSPSLTPPTSTLRKAPTTLIQKWRP GAQQPSCPKPRS*PSSSTPRTGPIGTSTS EPMITTQWP*STPSMR*LPPALTHPRSCVP SRTAAWVLGWYATHIERWLSAYSROPD SGLGWQTCFAQNLPK
3605	11656	A	4542	645	766	
3606	11657	A	4543	294	502	
3607	11658	A	4544	969	1158	
3608	11659	A	4545	147	402	GRGIQLFHEIQLQLSKTLCEPAVPVQRLR GRTAARWPGSRESPLRPVDFVEYCGVLI FIILFI*WRHFHSLCWSGDDIILACLL
3609	11660	A	4546	240	433	
3610	11661	A	4547	3	310	GGQPPHPPAARPGGRWGCQPPARQPLRP GGSVSTGTGFPGRWQPETSWVSCRHC GPHLSAVWGLPR/LSPLPAGPNRPQQLS EFPKPEFLTPTQTKPN
3611	11662	A	4548	3	195	WPPGLOPRGTEHRPPTDITTPRAARSTR SHSPSEPRTRTPWQQR*LPRPSKPSHGPD VIEAA

3612	11663	A	4549	1	1439	
3613	11664	A	455	140	511	PTQSTRRIATVSIAAAVAPLTLFLYRGDG GLSSRRRADAAGG/APFSLCGEVAVKPPI NPFTELMENAVNDGSHSEELFCHLKTIS QKEDLTRCTSESHLSWYSHQYQGKSKF PILGFPVLSII
3614	11665	A	4550	292	573	
3615	11666	A	4551	376	456	GEEPTSVF*RNQWNLRPKHFGNASPW
3616	11667	A	4552	1663	1984	
3617	11668	A	4553	1735	1868	
3618	11669	A	4554	138	279	
3619	11670	A	4555	72	192	
3620	11671	A	4556	571	690	CQQGFSFLQAYGPAQHAISMRKFKAKY PDYEVTWANDGY
3621	11672	A	4557	130	943	
3622	11673	A	4558	45	405	GIPGRRNMAVADLDLIPDVADSDGVFK YVLIPSPLGIPAPGIRPAESKEIVRGYKWA GHADIYDKSVGATCRKQGLRTVSILG GGRIS/HTKSPGQERFTVYGYSMGLWSC PRTPIST
3623	11674	A	4559	613	866	
3624	11675	A	456	1	1014	
3625	11676	A	4560	69	430	
3626	11677	A	4561	144	294	
3627	11678	A	4562	13	759	
3628	11679	A	4563	177	328	INAHLKFKVYFLSQAPLKCTWKTSAAARE NHV*LTFLMFYGTGTVGVCFL
3629	11680	A	4564	218	343	
3630	11681	A	4565	708	916	
3631	11682	A	4566	829	1002	
3632	11683	A	4567	51	209	
3633	11684	A	4568	8	218	
3634	11685	A	4569	3	357	
3635	11686	A	457	577	2195	IMGCVQCKDKEATKLTEERDGSLNQSSG YRYGTDPTPQHYPFSGVTSIPNYNFHA AGGQGLTVFGGVNSSHTGTLRTRGGT GVTFLVALYDYEARTEDDLFSHKGEKFQ ILNSSEGDWWEARSLTGETGYIPSNYV APVDSIQAEWYFGKLGKDAERQLLSF GNPRGTFLIRESETTKGAYSLIRDWDD MKGDHVKHYKIRKLDNGGYITTRAQF ETLQQLVQHYSERAAGLCCRLVVPCHK GMPRLTDLVSKTKDVWEIPRESLQIKR LGNGQFGEVWNGTWNNGNTKVAIKTLK PGTMSPEFLEEAQIMKKLKHDKLVQLY AVVSEVEPIYIVTEYMNKGSLLDFLKDGE GRALKLPNLVDMAAQVAAGMAYIERM NYIHRDLRSANILVNGLICKIADFGLAR LIEDNEYTARQGAKFPIKWTAPERALYG RFTIKSDVWSFGILLTELVTGRVPYPG MNNREVLEQVERGYRMPQPCQDCPISLHE LMIHCWKKDPEERPTFEYLQSFLEDYFT ATEPQYQPGENL
3636	11687	A	4570	2	217	ECGDVCDTGDRAVSDEEGYIWFGRSH HTINAS/GVVKALIVLTPQFLSHDKDQLI KELQHVKSVTAPCIGC
3637	11688	A	4571	1	846	
3638	11689	A	4572	361	916	
3639	11690	A	4573	128	416	RQVLLFWGRGKYHNPFSPLYPFSAFLG EGQVPLNPFSTLSGKSRSRSGQEP/LNPL FPHPDLLSVCNPLFPHDPFPFAPLEGKN PRTPRTRGST
3640	11691	A	4574	127	135	NKIVLKCWGGENFWGVVWRENGRCFS GLLQAGLGAAWEPRVG/IVRRNICCIE*L VMAWIRFCMN*KTK

3641	11692	A	4575	35	386	QLKTDTAQSPRSPLDHHGHRASGNSHSG SIHPDGLK*LKNHNRSEKPCPTLTDDIPP QKKCKWPVLALSADITL*KSFSWLILAQ KAPPLSTL*PPLLPAREQMSFDCNFPLPT QIL
3642	11693	A	4576	148	336	IRTPKIGLFNSPGSHSQSPWNSGPRLS/ WTPSQIFSA*QLKTDAAAGSPRKPSPRT PSFR
3643	11694	A	4577	4418	5130	DTISYQLEWRSLSQSETTDQAPMSSL*NF LRSNPWLS*RLGA*/WNADEQGVPLIQE MLESWASICKVPKYPNAEAVRPEEQTPH LHPGEINSHVAHTKLVWWSLHTDTHET WCRDSDRGTSLSGRSIPCPPALCSVRKIHL RPQVLRPTSPRNISPISNPHTRT/SQTPEPQ RPGVPEPPSPGACYKCKQSDHQAKECL QPRIPPKPCICAGPHWKLDCAHLAATL RAPGTLAQGSL
3644	11695	A	4578	522	923	PSAAGLLEFAGGPLQTLFAWVSAEAAE QRVLLNSQ/WLLPDRSSGSFVS/GSIWPCE VSVCPSSRCWRPRRKPLeAHLVQPQPPT LLAPVLVLLAVCYGWSRPLAHTLFAAS RLAHHGVDRQNNLVDKAQILN
3645	11696	A	4579	1	569	MGKKQNRKTGNSKKQSTSPPPKERSSSP ATEKSWMENDELREEGFRSNYSER EDIQTKGKEVENFERNLEECITRITNTEK CLKELMELKTKARELCEECRLRS/LMRS TGRLLIKKTPFSSG*SRI*FNN*ASNSLY* NINSNKSPL*PLKGPILSKPSASNIPCISLQ WVQAFQKSESLPAPR
3646	11697	A	458	561	966	GALCAASVPRCVWSSAGVVALFEEHCA PLVWVYTYECCHYMCSALLSLCPCPAP SERAAGLCCRLVVPCHK/GMPRLTDLSV KTKDVWEIPRESLQIKRLGNGQFGEVW MGMLRLNYSLSFPVWKIPNTKDG
3647	11698	A	4580	23	660	FIDSMPSPSRYQ*LSSQNWKLL*SSYGT KEEPASPSQS*AKRTKLEASHYLTSNYTT RLQ*LFQKHTMLSPRENLTQPACTQVK* TAMLLTQ/RPVWWSLHTDAHEIWCCDS DRGTSLSGRSIPPPALCSVRKIHLRPQVL RPTSPMNISPILNQLSSLRLTLPDRLRSPL DHHGRRASARLHPGEINSHVAHTKPVW CSLHTDTHENDKNKQ
3648	11699	A	4581	1	764	MIQEHADKQVQRLQGVLLGSIPTAASRA RLHPGEINNHVAHTEPVWWSLHMDAYE IWCRGSDRRSTLSGRSIPLPPALCSLRRIHL RPQVLRSTSPRNISPISNPGHLSDYTPTFQ GCQTMQGRLPWSFTLSGKSRFSGEGATQ RQYPIPPQALKGLMPAITRL/STAWPFA YKLSLPPHFTCPKTRQALQVSSGSAPYQ PNCFAYPHGAAPYSSILNTCLYNPLFCS RSQTSFLYYSFAPFIPASLRHLD
3649	11700	A	4582	1	400	MWNAVTLWQQRESCIEEIEIGTLETKE THFIRGPKTLAPVTDWEG/SPSLGV*SMQ GRLSDYTPTFQGFQTTQGRLPWSFTLSS KSCFS/AGRGKLLARPS*VPILPQPLLLH PTILLSPPLTPGQAYSFIP
3650	11701	B	4583	1	933	MEEKEERKRRRKRKRREERGDRGERKR MEKQKENQDPKDPPTSGPQTDQPKKH LTNFKSETKETRFIRGPKTPAPVTDWEGS LPLVFNHSRDTSLIHPGFRGVPRRDAC LGPSPLAASPTFLGKGAAPRQTELGPNS SSASAPPYPNFFIASPPHTWSGLQFPMT SPPPPAQQFTLKKVAGAKGIVKDLNLT KVYNNRKKLQFLASTVRQTPATSPAHK NFQTPELQPPGVPEPPPRGACYKFQKS GHRAKECLQPRIPPKPHICVGPVHWKSD CPHHLAATPRAPGTLAQGSLTPSQIFLA*
3651	11702	A	4584	1	582	

3652	11703	A	4585	1	622	MAKSFSGSGKSVCKSPKGKNNTWETRM IGDGGGLQEGSLTMKFEDGKYLFGFNIIEG DFCEDSNFQTGESVSDVYFENVSAQRE STGSGIAQERNDEGLESGRAVLCIEECLS ASLASTSQSSIEQPLTSSVPTKTKQNMT DIAEYPQWAIWTSKTTTIVLRPS*VLILP QPPLLHPIIFLSPLLTPAPAYSFIPTSP FG
3653	11704	B	4586	102	1151	MEEHFMLMGSKNQYRENGHTAQEKLL YAFHNISLKQSSLSLQNFNNENNDGS KDDDDGGDDDDDCQASEAKPNSACLHP GEINSHVAHTKPVWWSLHTDTHENDNG DVGDDNVDDDDVDDGGDDGKDDGDD DDGDTVMVMMMMMLVMVMIVVV VVVVVVVASRKAFLFLINGEESELESLT GFANIPNHHLTVQHIYTPPLPSGETKETR FICGPKTPALVTDWEGSLPLVFNPCRDAS LHQPRFKAASPAILGEGQVPLNPFSTLS GKSRSFSGEGARAYYKCRKSDHQAKECP QPRIPKLCPICAGPHWKSDCSTHLLAAP RTPGTLAQGSLTDSFLA*
3654	11705	A	4587	258	479	TAAARRSSRTSSHRSLHVPEIWPLGQG MPAARDSS*AASHLCRTTPPKIGLFNLPGS HSQSPWKSGLPRLSD*LLPRSSRLSS*RAL GQISRGSGSGCQVS
3655	11706	C	4588	259	531	MSPAHNQFQTPPEQRPPIPPPPGACY KCQKSGHQAKECLQPRIPKPRPICAGPH WKLDCPHTLASTPRAPGTLAQGSLTASQ IFLA*
3656	11707	A	4589	1	446	MNLNRNALVLTFLSDSARLHPGEINSHV AHTKPVWWSLHMDTHEIWCRRSDRGTS LGRSIPCTPVL/VLSRFKKIKACYHSPATS WPFKYKLSLQLPHFTCPKTRQALQVSS GAVPYQPNCFAYPPCGAQPVPSFVLNTF LHNSLCRA
3657	11708	A	459	46	949	ARRPRPWLSSARTPRRPFWRPSPCCSPM LTTSETLMMKNIDPSGLETQPF/YEVLQ SNIQHVLVYENPALQEALACIPVQELK RKSQEKLSRARKLDKGINISDEDFLLEL LHWFKEEFFHWNNVLCCKGGQTRSR DRSLLPSDELKWGAEVEDHYCDACQ FSNRFPYNNPEKLLTRCGPWCE
3658	11709	C	4590	228	260	MFLGLVGLRT*
3659	11710	A	4591	268	390	
3660	11711	A	4592	1	499	MAPTNCKGSRKCGRPHEQMHPYPLPLL TLFSDSARLHPGEINSRVPHTKPVWWSL HTDAYEIWYHSDWGDLPWETIPCPA LCSMRKIHLRPQVLRPTSPRNISPISNPEK *NGLKVF*KHTSPSSATNLKRPQGYFYH FPFSEFRPVLGMLQVTSFAQKFTLL
3661	11712	A	4593	1	355	MEVYTQKAYWRVPLGSTVGDDGGHGR FIHPFAIKIEQGSTNRCPSGSPATKYVLLC LHGEKVDLLPADQQSIFSPGRSTQGHLSI TGVLMNRHSTYMDKEKVKMVTALWTD EELSKLTWTRMKFDAMTQLGDLWPWEIN PLSSCSLLREKDPPTSGPQTDQPKHELT NFKSTTNHAPLTIPLKPNHSYPAECQYPV POHALKGLKSIITRLLQHGLLKPINCPYN SPILPVLKPKAYRLLQDLRLINQIVLSIH PVLKPNITLLSSIPPSTTHYSVLDLKHAF TIPLHLSSQPLFAFTWDPDTHQAQITW AVLPQGFTDSPHYFNQAQISSSVTYLGII LMKTHVLSLLIVSG*ESIWFVQHGVDRQ NNLVDKAQILK
3662	11713	A	4594	260	487	AQACMYTSRWPEATEEPQKK*KWLVPA LTDDITL*HSFSGTVSLRSSPLSTL*PPPLP AREQPPLTVIFHHLPKS

3663	11714	A	4595	1	508	MNMNIKKIVKQATVLTFTTALLAGGAT QAFKENNQKAYKETYGVSHITRHDML QIPKQQQNEKYQVPQFDQSTIKNIESAKG LDVWDSWPLQNADGTVAEYNGYHVVF ALAGSPKDADDTSIYMFYQKTA/PSPGQ A/TVPILQPPLLHPILLSPLLTPSPAYSF VP
3664	11715	A	4596	1	1246	MGKGRRSLWLLPADGGSSGNGNELQGT SPHDYFSIAIKSTHIGLEYPTSRQSNRVSP QSKRIRQPLGLPSGSITERGPPNNRQKGY TRQQFCHESTPNKGDRVIYNLTCLLYCC VRFLAGTGPHILYLSRLASNLELFKRDK GRGEQRKEEVTCFHKLLAEKENNPPFSFI YPNPIKRHPYLPSTLTFSDSAHLHPGEIN SFMAHTKPVWWSLHTDAHEIWCRRSDR GTSLSRSLRPPALCSMRKIHLRPQVLRLLI SPRNISPISNPHALKGLKPVITRLLQHGLL KPINSYPNSPILPVLPKDPKYKLVQDLCLI NQIVLPIHPMMPNPYTLSSIPP/CHNPLF CSGSQTCFLYYSFVPVIPASLRFHLD*P*H SS/WFSKLPGLYCRKASQTAPITSVKPKF HPHLLPISA
3665	11716	A	4597	182	750	KWPYCPSSAGQQTQLCSSSTNSNNCLPY RGTSLSGRSIPCPPALCSMRK/MPPTSGP QTDQPKKHLTISNPVAEAKGIVKVNAPP SLSD\PPKIS*RLGSFSSNHPYLGQRQYPI QQALKGLKPVITCLLQHVLKPVNSPYN SPILPVQKLDMPYRLVQDLCLINQIVLPI HAMVNPETFIPLTVLNP
3666	11717	A	4598	3	504	KRHPYLPPLLTFSDSAHLHPGEINNHA HTRPVWWSLHTDVHEIWCRRSDQGTFF WEINPPSSCSLLREKDPPTTSGPQTDQTK KHLTNFKSGKRPLFTPSPTSLTIPQPLSPF NLGATLQSLPSLNFSHFVLVFTKETCFI HEPKTPAPVTDWEGSLPLVFNHC
3667	11718	A	4599	1	1032	
3668	11719	A	46	105	328	RDLHMKTITSKVY*LTTH*SGSVGRDYE LHENPLVGPNIKLGDVFDISHPNDEYSPL LLQVKSLKEDLQKETIS
3669	11720	A	460	3	284	
3670	11721	A	4600	72	724	FQIAGKWHFQFFHPTRSK*FLS*N*QMV* GA*CPGILLHISPLVSVSATRPKSSFFPS HLSPQYQPQVSLSLNLPFLQTHVTS AFL PRLLARPS*VPS/RSSASA/LSTLQSLYHL PSSHLVRLTVSFRDYPSTCPAIYS*KGG WSQRHSQG*CSF/SLYPKSDSV*ALFHQI* KSSPVHGSFGSNPKTLSPSP*KVKRPSY SQYTFYYPICSRH
3671	11722	A	4601	2009	3197	
3672	11723	A	4602	3948	5007	VLQTFAVSVTAHKGGTTPRVVCSQWVR GLADFRNEAADPHDQGMENPTDFLER LRGALVKHMSLSPDLVEGQILKDKFIT QAAPDIERKLQKQNGPSLRDIFFSPQNGY NWRMASFYLPVANKWKILKSLYQILHL GPDWEGPYTVFLSTPMAVEVTGIDSWIH YTQVKA WKADGATSVNPEEHPKYQGEI NSHVAHRKPVWWSLHTDVNEIWCRRSD RGTSLGKS/HPRSSCVLCSVRKIHLRPQV LRPTSPRNISPILNQELATRA/VKSGH*AK ECLQPGIPIKPHLICVGP*KSDCS/TPSGS HSQSPWNSGPRLSD/WTPSQIFSA*RLKT DTARSPQKPPRPSRMPFSR
3673	11724	A	4603	567	678	
3674	11725	A	4604	1	305	
3675	11726	A	4605	3474	3657	
3676	11727	A	4606	796	937	
3677	11728	A	4609	664	1059	
3678	11729	A	461	420	690	

3679	11730	A	4610	775	944	
3680	11731	A	4611	279	416	
3681	11732	A	4612	36	4704	
3682	11733	A	4613	124	672	
3683	11734	A	4614	688	940	
3684	11735	A	4615	561	663	
3685	11736	A	4616	217	378	
3686	11737	A	4618	198	347	
3687	11738	A	4619	201	424	
3688	11739	A	462	557	753	IIIEIGIMEQRKPWKKICYFICCASHAKGSL /CRRMKRAPVYYGRTVPSPDGSIHGEY HVLLELNT
3689	11740	A	4621	305	440	
3690	11741	A	4622	936	1380	
3691	11742	A	4623	9	1230	
3692	11743	A	4625	942	1293	
3693	11744	A	4626	40	154	RCWLCPHALFLWLASHLCHFYTFCVQ AEC*VMPPHPL
3694	11745	A	4627	4	436	
3695	11746	A	4628	465	748	
3696	11747	A	4629	92	393	WPRSGPLRLLRTVCCCVLPLLSHSKLHKI SVSAPGP**QIPPPFQNRSFCDTERG*GG ETPLVPGKFSSPHQTL*GTSSGRTGSAG QLPLLYLSYKTR
3697	11748	C	463	137	274	MRKQLLLPQKKRRVYLLRITKKVEMIPQ DNENPGNTNCHDVVLVQ*
3698	11749	A	4630	1	1614	
3699	11750	A	4631	1	410	KGKVKEAAQRYQYALKKFPREGFGEDL KTFRELKVSLLLNLRCRRKMNNSSSC VHILSSRQFAAALEDLNEAIKLCNNREI QRLLLRVEEECRQMPPPPPPPPPPQ QLPEEAPEP*RT*TRPSSCVPTTVRSRDF C*EWKKSVD/TMQPPQPPPPPPPPQQL PEEAPEPQHEDIYSVDIFEE
3700	11751	A	4632	1	972	
3701	11752	A	4633	196	390	
3702	11753	A	4634	2	4417	
3703	11754	A	4635	158	358	
3704	11755	A	4636	4	152	
3705	11756	A	4637	382	458	
3706	11757	A	4638	46	314	
3707	11758	A	4639	46	271	
3708	11759	A	464	1	2155	MKKKKMKEEEEKEKKEEEEEEEERR KEEDDFCNRTSPAGGSEGPQGESEQPAQ PPEQAGGRPGASPAPDEDAEAAGAEQG GDSTEATAKPKRSFYAARDLYKYRHQY PWKLSQFHSSVSHRRKEIDCKAFKWQDL AFFGELTRGKRSQHNYLRITRILKSLGEL GYESFKSPLVKFILHEALVENTIPNIKQSA LEYFVYTIRDRRERRKLLRFAQKHYP ENFIWGPPRKEQSEGSKAQKMSSPLASS HNSQTSMHKKAKDSKNSSSAVHLNSKT AEDKKVAPKEPVEETDRPSPEPSNEAAK PRNTEKDSNAENMNSQPEKTVTTPTEKK ESVSPENNEEGGNDNQDNENPGNTNCH DVVLPRSPAPAAASSMGNLLGGVSFREP TTVEDCDSTWQTDSEPEPEEPGPGGSE GPGQGESEQAQPPEQAGGRPGASPAPDE DAEAAGAEQGGDSTEATAKPKRSFYAA RDLYKYRHQYPQNFDIRYQNDLSNLR YKNKIPFKPDGVYIEEVLKWKGDYEKL EHNHTYILWLPLTEQGLNIFYAKELTTY EIDESSKTKEAIRFPWAYKNDARIFWN KT/GLIKLGMFARGVYWQESFQHLNESQ HNYLRITRILKSLGELGNEFSKSPVKFIL

					HEALVGGILFPILRQSALAEYFVYTIRRTG RRKGRKA/LCGFAP/WKHYTAFQGNFIW GDPPSEKEQFGGGGQRPREM
3709	11760	A	4640	1	1815
3710	11761	A	4641	1	1284
3711	11762	A	4642	1	1650
3712	11763	A	4643	1	1605
3713	11764	A	4644	303	410
3714	11765	A	4645	92	395 HHHSKLTVTLSPPFPCKPLPPMKAKLV EERKRNARG*SAKRRKMRQRSQVNPSPF VAPVEATQEHETWNAQTLGMLGTSCGT ACYCLELVSMGSRTSSAL
3715	11766	A	4646	362	497
3716	11767	A	4647	609	701
3717	11768	A	4648	1	104 TYV*PSVFKVN*HPT*SSS*HRKDQTDIL NAINQ
3718	11769	A	4649	1	1398
3719	11770	A	465	226	486 NWKTKIITSMLCWGNASFGQLGLGGIDE EIVLEPRKSDFINKRVRDVGCLRHTVF VLDDGTVYTCGCNDLGQLGHEKSRKKP EF
3720	11771	A	4650	1	1149
3721	11772	A	4651	3	242
3722	11773	A	4652	213	658 EGPARHRLSPVRASKMTKKRRNNGRA/ KKGRAPRQGTAPLKIFPSGPLPPNCARCV P/RRDKAIKKFRHSET*WEAAAVRDLSE ASVFDAYLALPKLYVKLHYCVSCAIHK QK*SGNRSS*SPAKTRTPPPRFRPAGCW PHGPPTKSP
3723	11774	A	4653	161	295
3724	11775	A	4655	355	476
3725	11776	A	4656	662	979
3726	11777	A	4657	960	1387
3727	11778	A	4658	696	996
3728	11779	A	4659	240	461
3729	11780	A	466	674	1026 LWAEGLVWGSIREWLQHTPPNGIRDW AKQRMWRTGQPQAPTRVNISRPSPTPF PRFTTKLMWALGTDPTHTHTSHSFAH IHSCTHA/HVQEHTYTYSLPHTSRPFLKG SKSTPKP
3730	11781	A	4660	2939	3295
3731	11782	A	4661	44	319
3732	11783	A	4662	2	896
3733	11784	A	4663	68	438
3734	11785	C	4664	208	345 MSPDRNIECKATGFTETTYDLLFCKSVD SFYQLLISSSGSKSIT*



3735	11786	A	4665	1	320	
3736	11787	B	4668	1	651	MQKEDCVIVLVKLAVEGMAPTQQIHLF VAITFSGWPRQCTGSSFKAIDLFLDPDSV MQQIYSFHFHGMCFDNHAFQNLMAVID NIKQDRDMDEAGSHHSQQTNTGTGNQT PHVLTHKWELSNENTWTQGGEHHTPGP WVLGLADFKNEVVDPHGVKPQTFTVSV TALKDDVSGIHSFLLVGSWSANFRNEAA EPSALFTIAKIWINLSIHQQMNG*
3737	11788	A	4669	1	112	
3738	11789	A	467	153	380	PRSWGQDTTPSRGERSPNSSGTPGLPPPG GHPFSPQVVRPQLLPPTDLGPGGGQAG IQGVPSPGTQDGANSRL
3739	11790	A	4670	474	616	
3740	11791	A	4671	197	334	
3741	11792	B	4672	82	402	MGLEKLHPFDAGKWGKVINFLKEEKL DSMLVEAREASEEDLLVVHTRRYLNELK RKVLRPLRTQTGGTIMAGKLAVERGWAI NVEAIXRKVELEWGTEDDEYLDK*
3742	11793	A	4673	1	1524	
3743	11794	A	4674	39	786	
3744	11795	A	4675	434	1333	
3745	11796	A	4676	772	1107	
3746	11797	A	4677	282	377	
3747	11798	A	4678	233	459	
3748	11799	A	4679	761	962	
3749	11800	A	468	140	754	TAMSSEEGKLFVGGNLFNTDEQALEDH HFSSFGPISEVVVKDRGTSSGPGGFGFI TFTNPEACFKLPMKKPMNRRSLEWSVR SRCWIMQAKSASGEPEGGGLLAGHWGL GSQLTFFKKVVGPGGLIGELSFAMRAMN GESLDGRQIRVDHAGKSARGTRGGGFG AHGRGRSYSRGGGDQGYGSGRYYDSR PRGYRYRY\GRSRD
3750	11801	A	4680	3	190	
3751	11802	A	4681	150	338	
3752	11803	A	4682	168	375	
3753	11804	C	4683	55	444	
3754	11805	A	4684	64	322	
3755	11806	A	4685	2	38	
3756	11807	A	4686	185	451	SQHFRPRQVDHLRLGVGDQLDQHGET PSLLKIQNWPGVVAHACNPSYSGG*GRR I/RLTLGGGGCGELRSCHCTPALATRAKL RLKKKK
3757	11808	A	4687	344	468	
3758	11809	A	4688	204	286	
3759	11810	A	4689	206	395	TFCLVFFQFSYNFQLVPVFNTALVC*RH* LIAFLNLRII*F*YKYISYIFVKL*QNQISK WF
3760	11811	A	469	2	259	GGNDLAFPH/HENEIAQCEVFHQCEQWG NYFLHSGHLHAKGKEEKMSKSLKNYITI KPSTTVTAPCSKLSSCSWGWALSWRTH VPT
3761	11812	A	4690	2112	2221	
3762	11813	A	4691	116	382	
3763	11814	A	4692	11	666	
3764	11815	A	4693	47	241	
3765	11816	A	4694	246	485	
3766	11817	A	4697	3	728	
3767	11818	A	4698	825	941	
3768	11819	A	47	1478	1732	GGQGRWITRSVQDPHGQDGEKPSLLKI QKLARHGGRRL*SQLLGRL/RQENCLNL GGGGCSEPRSHPTPAWVTEQDSVSKK KKK

3769	11820	A	470	198	353	
3770	11821	A	4700	1	299	MALRKNEVFEGWDGRKGVSHGEGCFSK GSNIGAYLGKSQEQQFEGNIRGNRQIIVNN ESKLKISEEDLTPRMRQRSNTLPKSFGSQ LEKEDEKKQELVDKAIKPSVEATLESIQR KLQEKRAESSRPEDIKDMTKDQIANEKV ALQKALLYESIHGRPVTKNERQVMKPL YDRYRLVKQILSRANTIPIIVSRIPSRGWY NTFP*CPQGGCFPLASPGASSE
3771	11822	A	4701	1	238	
3772	11823	A	4702	1082	1436	
3773	11824	A	4703	126	417	
3774	11825	A	4704	867	961	
3775	11826	A	4705	3	242	
3776	11827	A	471	103	483	NTAVSTTVAGSCLASESAGAPLPSALSV GLGVPAPWNKGRSCLPGRPSTGEDLGA DFIPNPTLGLYIGWVQVPIRFLGSHVSLR PESLLTQLRLNAFVFSVSHLHAKGKEEK MSKSLKNYITIKKK
3777	11828	A	4710	244	318	
3778	11829	A	4711	1	1605	
3779	11830	A	4712	1	816	
3780	11831	A	4713	395	1374	KVTLMRWLYKG*NSGPMSV/TEEMDLAI EASEMIVLQSLHKYQPRHIVEVNDGEP EAACNASNTHIFTQETQFIAGTAYLNAE ITQLKIDNNPFAKGFRENFESMYTSVDTS IPSPGPNCQFLGGDHYSPLPNQYPVPS RFYDPLPGQAKDVGGSSRVNREVS KDF ADFGTTIKQDFRLLGQTSVDRLLQLSQG QAVKGNQLLPVSLVKRKTTLAPNTQTAS PRALADSLMQLARQVSRLESGQDFADF GTTIKQDFRLLGQTSVDRLLQLSQGQAV KGNQLLPVSLVKRKTTLAPNTQTASPR LADSLMQLARQVSRLESGQ
3781	11832	A	4714	1	2109	
3782	11833	A	4715	251	623	
3783	11834	A	4716	36	69	
3784	11835	A	4717	328	441	
3785	11836	A	4719	560	688	
3786	11837	A	472	98	1339	GLRAAQAWAPRCRPRWALGGLGGTGL RSLASAGGRGRAWLQPTGRETVQVYN SLTGRKEPLIVAHAEASWYSCGPTVYD HAHLGHACSYVRFDIIRILT KVFGCSIV MVMGITDVDDKIIKRANEMNISPASLAS LYEEDFKQDMAALKVLPPTVYLRVTENI PHISFIERIARGNAYSTAKGNVYFDLKS TGDKYGKLVGEVPGVPGEADSDKRHA SDFALWKAAPQEVFWASPWGPGRPG WHIECSCLASNGIWKVNLDIHSGGIDLA FPHHENEIAQCEVFHQCEQWGNVFLHSG HLHAKGKEEKMSKSLKNYITIKDFLKT SPDVFRFFCLRSSYRSIDYSDSAMLQV SSCSWGLGSFLEDARALHGRGAAGRL RQGSDAVGEALQHQEGREGGLGR
3787	11838	A	4720	245	382	
3788	11839	A	4721	235	425	
3789	11840	A	4722	253	363	
3790	11841	A	4723	235	320	
3791	11842	A	4724	1	1326	
3792	11843	A	4725	2	1502	

3793	11844	B	4726	144	2704	XHGSVVVWDLREDSRLHYSVTLSDGFW TFRTATFSTDGILTSVNHRSPLQAVEPIST SVHKKQSFVLSPFSTQEEMSGLSFHIALSL DESGVLNVVVVVELPKADIAGSISDLGL MPGGRVKLWDSSTDSHAVTGLQWSPTR PAVFLVQDDTSNIYIWDLLQSDLGPAK QQVSPNRLVAMAAVGEPEKAGGSFLAL VLARASGSIDIQHLKRRWAAPEVHSCVE RKWSGHTASRVHTHSPSLLFCNPLDD WSRSFETEAPKHWVFEPYRNVKFVKK ETSKKANDLPLSLTPREELARCLWAPPSP SVEGPMATAEVPWNESSHSSKGRREGPE PHRRRSSAEQEVQAARLQGKERKARGE HGRSIKGRENGAKQDKPRQAPPTVSFR QPPSPRESAHSSGTRFQLGCSHTELTGG HLASLCDYLLQTPRPGVPEHRASPGSKC TRHSHSHTLGRGEGVVCTCPSATDTPQV VERESNPLDEVRRGHAGEHRLLSQSLST VGAESISSKSTGWAPLNAPVRTFLGESLG SAFSSASIALRTSVKRRHKWARPHTNGA RQPPGGKGTTPGGKEHPYEIKAPPCVSR WLSSPPPGTPSCTTVRRSWLPSALKHCC VLRREMAVCHRLSKCPANAIVKHPCEG KSPPYRALWHRSGVWTVAGTQRSFNIR AHRDQTLRNNYTILPNGNWRHGAYAG VSSFSRX*
3794	11845	A	4727	8	3281	
3795	11846	A	4728	162	347	
3796	11847	A	4729	201	522	
3797	11848	A	473	414	833	NVLVICQRNSNSFKKLFKVRDDGEQTQQ DFSALQ/AS/SQGRPELVHSRGVQGPWG HQPWWVCQNPLAKAAFTALLVLESREE ERTVTAEGAPLSFGGPHTSPSPGRDAGG SNLGTFSRSYSQRLEFLSSRKLCNINCKL S
3798	11849	A	4730	205	424	
3799	11850	A	4731	343	500	
3800	11851	A	4732	103	361	
3801	11852	A	4733	1097	1298	
3802	11853	A	4734	874	1184	
3803	11854	A	4735	451	641	
3804	11855	A	4736	1	1215	
3805	11856	A	4737	1	417	
3806	11857	A	4738	19	345	AATLGHCPSIQCWRSAGSCPRASSSGPQ ASPMWV*STDLR*MSWATSLQGWCPQ WPPTPSCSQSSWAA\HHRCGWVCHCH LTGEDLRPEARLPGGQQPGAGGPGPQ
3807	11858	A	4739	40	209	DGRCSQWSRRLQGPRVHTEGPGPAS ARLPQHPGPGCPLLCGHCVPQEPEEYFP *LPQHPGPGCPLLCGHCVPQEPEEYFP
3808	11859	A	474	635	901	PHPEPKGPKLRA\PLSPDFPPGSRLAGSP GAPPPPPHPEDRLHQGSSHPHPIRLLER SLAQGGAAPLGPPRMPHGAAPQGCSPT PT
3809	11860	A	4740	2	4097	PCPPHADCRDLWQTFSTCQPGYYGPGC VDACLLNPCQNQGSCRHLPGAPHGYTC DCVGGYFGHHCEHRMDQQCPRGWWGS PTCGPCNCDVHKGFDPNCKNTNGQCHC KEFHYPGRGSDSCLPCDCYPVGSTSRSC APHSGQCPCRPGALGRQCNSCDSPPFAEV TASGCRVLYDACPKSLRSGVWWPQTKF GVLATVPCPRGALGLRGAGAAVRLCDE AQGWLEPDLFNCTSPAFRELSLLLDGLE LNKALTDM
3810	11861	A	4741	2	10321	
3811	11862	A	4742	157	273	

3812	11863	A	4743	469	676	
3813	11864	A	4744	237	497	
3814	11865	A	475	816	1099	HFGEPPFFLRQSL/NSVAQAGVKWRDPS SLQPLPPGFKRFSCPSLPSSWDYRRVPPH LANFCIF/MSRRGFIMLARLAQPQ/CDPPI SASQSARITGV
3815	11866	A	4750	303	1978	
3816	11867	A	4751	142	408	
3817	11868	A	4753	49	163	
3818	11869	A	4754	665	733	AQEP/LTWCLLPTLVPGKCEWRQV
3819	11870	A	4755	334	520	
3820	11871	A	4756	3	222	
3821	11872	A	4757	133	205	DLPQAQSNLQWPRKTS*LKPERL
3822	11873	A	4758	250	532	
3823	11874	A	4759	524	677	
3824	11875	A	476	3	232	
3825	11876	A	4760	110	1520	
3826	11877	A	4761	1	635	
3827	11878	A	4762	2	4398	
3828	11879	A	4763	2016	2227	
3829	11880	A	4764	1388	1520	
3830	11881	A	477	2	732	FVPGAEMAASGRCLCKAVAASPPFAWR RDNTEARGGLKPEYDAGVIGAGHNLV AAAYLQRLGVNTAVFERRHVIGGA AVT EEIIPGFKFSRASYLLSLRPQIYTDLELK KHGLRLHLRNHYSFTPMRKRVQAAKVP RCLLLGTDMAIENQKQIAQFSQKDAQVF PKYEEFMHRLALAJDPLLDAAAPVDMAAF QHGSLLQKRRLSTLKPLLKAGRILGAQ LPRYYEVLTAITKVLQDQWFES
3831	11882	A	4770	620	903	
3832	11883	C	4771	230	487	MLNLASPLDKLTQNTTQNGDSSTHSS NSIHKHTSSSSSVLFPDGTLEALFVSSPKV EASPLEAXVPCSASHSCNTSSKLNRRRL*
3833	11884	A	4772	1	350	
3834	11885	A	4775	97	185	
3835	11886	A	4776	845	942	
3836	11887	A	4777	510	636	
3837	11888	A	4778	22	333	
3838	11889	A	4779	310	422	
3839	11890	A	478	161	610	GRRPSPQETPRPTSLSGAPPTPRHSRCPPN HTVSSASLSLPSRHRLFTYRHCNRF SILL EPSCGSKDTFLLLAIKSQPGHVERRAAIR STWGRVGGWAMGRHLKTD/GSSYGWH DA/RTPTQLMAYESREFDDILQWDFTED FNLTCLKEL
3840	11891	A	4780	1	140	KIRCEGLSRDLKGE/RR/RGKGHDG/LYQ GLSTATKDTYDAFHMQUALPPR
3841	11892	A	4781	17	283	
3842	11893	A	4782	2	673	
3843	11894	A	4784	131	523	
3844	11895	A	4785	197	582	
3845	11896	A	4786	235	416	
3846	11897	A	4787	280	569	
3847	11898	A	4788	208	486	VQRHCLAGLIHHPFKWNP KDQILDPIW RQGRSTSPRAPGRRGPGARGPAPSPAP RGVRRWRAGFRQRT PHTGPPAPTAKKT LLAGREPPR
3848	11899	A	4789	190	594	
3849	11900	A	479	15	405	GGTGAMAPW/AGGEHSRMNPLRAV\WL TLTAAFLTLLLQLLPPGLPGCAIFQDLI RYGKTKCGEPSRPVACRAFDV PKRYFSH LYTISFLWNDISAFW/LFLFLFLTPLFSY LRFLFHSHLASCFFHLV

3850	11901	A	4790	523	722	
3851	11902	A	4791	171	320	QDLFSSSRQLEAFSNTCKRTQRTCTNR MYR*RYSCGGTE*GSYPTNLE
3852	11903	A	4792	243	445	
3853	11904	B	4793	320	434	XQCPLNRMAGHISSPYRSEAVVSSPGAP VRTGPSWEFGK*
3854	11905	A	4794	146	609	
3855	11906	A	4795	874	1126	
3856	11907	A	4796	1	957	
3857	11908	C	4797	209	406	MTRCGSLGPSPLQGVYMATVRRGDSVW WGTECGRDSPAVRVSLFLLCSCWGWWS RGLTPWRPCGP*
3858	11909	C	4798	133	237	MFMDXXXXXXGGRFKGSLGGPKFTRAC KVKFFSL*
3859	11910	A	4799	250	422	ASAMVTSTSTPGSILMEVICTISEGLCKS MSRL*ILIWKRSHVLEPSQGVFLVVI
3860	11911	A	48	1662	1858	PSFLETEPCSIQARVGVHDLGSLQPLPP VGSNSPASASQVAGITGA*HHARLIFLFF VEMGCAE
3861	11912	C	480	80	370	MWAPREQLLGWAAEALPAKDSAWPWE EKPRYLGPVTFEDGAVLFTEAEWKRLSL EQRNLYQEAMLENLRNLGSLXXXXXXX XXXXLALDLNLGFWL*
3862	11913	C	4800	33	158	MRMQQPSVKPGFKDLQKCKTMPLLLM KYIVLENIGLKIFLR*
3863	11914	A	4801	3	344	AQDRLHWGQTQNNQQRGGHALVPAEV* WDHPSWQINSRFYPKEQ*KVFSTSSSSSS GGAVLKNPWGGQSLRGLARKNLFYRG PNKNLPGNFGKETLLWGGDKLGQPPSR NLRL
3864	11915	A	4802	7	1268	
3865	11916	A	4803	65	376	
3866	11917	A	4805	64	1355	
3867	11918	A	4806	2	451	AQKESRSVQRSWKLKPLIVLSPLQTGL TVQSTWSTCPVSRLVTLSQLLGVHSRSL SSRCRDEGFSDDPEATEPQGNPNPSC* GAGTAWGRMEPPAPQHFGDFPTPL*MS WC*DCVNPKTTHGPVLWPPFEAKTKQP DTLCSGAGLY
3868	11919	A	4807	239	580	ASTREVSLSGRTWPMIMVVPPTSAAWG MSLLSCTPLCFLPCRLSDR*PCSKASFSSD PRSSRRQVEVHLVKALPSPSEDAPPPPA RNSPAEASVMPQNFLISAKPNPLASL
3869	11920	A	4808	1	180	FPGLGPHPCSNGCHLP*APSPPLLP*PPL SSQPLSEERGSEGRSEGVDAAHTARLAP NG
3870	11921	A	4809	1018	1284	
3871	11922	A	481	1	1083	
3872	11923	A	4810	704	978	
3873	11924	A	4812	63	131	
3874	11925	A	4813	204	448	
3875	11926	A	4814	397	553	
3876	11927	A	4815	361	764	RSKYAASKPALAIWDHHPGNLVRISAVH *RHTWFKLLFNVIITVFSSHFFNLFLLF CLFFIHHFFDQPGHCHLCVTPATCVRHL GIMRKSC
3877	11928	A	4816	137	262	
3878	11929	A	4817	265	394	
3879	11930	A	4818	1817	2233	RITFQERLQARSRREVGSRPKTARQVC RLPAAAAKSPLARSACFRCLQKVTEE RECGRITGSP*TSSFTKTLRTITPFTSHKR RVGHQSNQPPEPDSNDRTLPEPEGCW SESWAPPHFASSNRGLPGSESME
3880	11931	A	4819	569	950	

3881	11932	A	482	3	503	TGTPVSTISWCCYLVCLLLACVRAQMW APREQLLGWTAELPAKDSA WPWEEKP IYLG PVT FEDVAVLFTAEWKRLSLEQR NLYKEVMLENLRNLVSLAESKPEVHTW PFCPLGFGSQQLS QDELHNHPGFGHA GNQLHPGNPCPEDQPQSQHPSDKNHRG AE
3882	11933	A	4820	1868	1912	TFVK*DRSKHITY
3883	11934	A	4821	1003	1094	
3884	11935	A	4822	810	970	
3885	11936	A	4823	133	261	
3886	11937	A	4824	76	475	
3887	11938	A	4825	1	1647	
3888	11939	A	4826	1	1459	
3889	11940	A	4827	456	705	
3890	11941	A	4828	417	791	
3891	11942	A	4829	553	734	
3892	11943	A	483	138	2125	
3893	11944	A	4830	246	346	AFEENLLRVCKKLYSVFTQMPKMNAN VFIGAN
3894	11945	A	4831	3	241	SCERARFWAAAVAGVAATRVRRLAIT GLTMERKVLALHARKKRTKAKDKAQ RK*/RLVPQHPIILWIFLRHLLCSGFTS
3895	11946	A	4832	195	266	GVWRPLSGCNASSA*SQEPCTT
3896	11947	A	4833	1	1278	
3897	11948	A	4834	2854	3176	PVISSSVCRASPKSRIFSSQSSFTARLLGF RSL*IMSAECIYFRPRRIW*IRN*TWSSVS F*HFHNVVQICPHEMGHQIHIEFLQRPC RCKNVQQTNIHFMFHMFK
3898	11949	A	4835	1	2991	
3899	11950	A	4836	472	575	
3900	11951	A	4837	1	248	
3901	11952	A	4838	676	788	
3902	11953	A	4839	212	677	
3903	11954	A	484	1	2580	
3904	11955	A	4841	92	316	
3905	11956	A	4842	1	578	
3906	11957	A	4845	788	1173	
3907	11958	A	4846	35	406	SGTPASPCLEMDPNCSCSPVGCACAGS CKCKECKCTSCCKSECAFPANLGDGPS *SREPRALQAGAGQ*PASPNSFNT*FRIR PQIALKMGCCSCCPVGL/CAKCAQGCIC KGTSDKCSCCA
3908	11959	A	4847	299	981	
3909	11960	A	4848	152	797	
3910	11961	A	4849	1	124	
3911	11962	A	485	1	687	
3912	11963	A	4850	2	719	
3913	11964	A	4851	98	263	
3914	11965	A	4852	741	965	AHLPEFLLSPCPSLGGPRPRSHCRW*HCP RLRAAPPPA*SALCLGGCCECVAAPGRW YCWVPGDRACSPHTCAR
3915	11966	A	4853	105	284	

3916	11967	A	4854	407	1815	TRATRWKRTKRYTLRKTERRWSRPRVIMD SASR/HAPGNGLYVNYGLKALNIHGGQK LTLAEHGGAYGATADMSAKIGGEGDLAI NTVRQVSLSNQNDYQGATYVQMGLTR TDADGALGNTRELNISNAIIVDLNGSTQ TVETFTGQMGSTVLFKEGALTVNKGGIS QGELTGGGNLNVTTGGTLAIEGLNARYN ALTSISPNAEVSLENTQGEFSSKRRQTRK EIFLSRMEQILPWQNMVEVIEPFYPKAGN GRRPYPLETMLRIHCMQHWYNLSGDGAM EDALYEIASMRLFARLSLDSALPDRTTIM NFRHLEQHQLARQLFKTINRWLAEGV MMTQGTLDVATIIEAPSSTKNKEQQRDP EMHQTKKGHWPLWHEGPHCLVTTAA NEHDLNQLGNLLHGEEQFVSADAGYQG APQREELAEVDVDWLIAERP GKVPARHR LSAHGCVLYTALSRRIVALPLPV SAPP
3917	11968	A	4855	1020	1352	
3918	11969	A	4856	491	628	KTITNWRCSRWPTCFGR TK*YDWHRQ MTPPRQRAVLWTKSPKTV
3919	11970	A	4857	1	1872	MVIVPIGYAAQELFDVSQVRGGTPYGAT TIAGGDGSRQPSQEELSIARYQGEYVAG VRYRSTFYPGIS/ALSVLSHILVLYCTAGL HIGA/AIVPTRYAYCNSEFSSKRRQIRKEI FLSRMEQILPWQNMVEVIEPFYPKAGNG RRPYPLETMLRIHCMQHWYNLSGDGAME DALYEIASMRLFARLSLDSALPDRTTIMN FRHLEQHQLARQLFKTINRWLAEGV MMTQGTLMHQTKKGNQWHFGMKAHIG VDAKSGLTHSLVTTAANEHDLNQLGNL LHGEEQFVSADAGYQGAPQREELAEVD VDWLIAERP GKRSASCIQKLNTTMIYVT HDQTEAMTMATRIVIMKDGIVQQAER NDWHFTIGAMYEIENVEGYGEDLDGLA DPSVYFNAANGPCRIALGYHHEGPENIT RAPEEMRSFLLDAGAEYNGYAADLTRT WSAKMTNDYAQLVKDVNDEQLALIAI MKAGVSYVDYHIQFHQRIAKLLRKHQII TDMSEAMVENDLTGPFMPHGIGHPLGL QVHDVAGFMQDDSGTHLAAPAKYPYLR CTRILQPGMVLTIIEPGIYFIESLLAPWREG QFSKHFNWQKIEALKPFGGIRIEDNVVIH ENNVENMTRDLKLA
3920	11971	A	4858	1231	1407	
3921	11972	A	4859	491	553	
3922	11973	A	486	444	843	EKSVYSLIFPCVFFLPSTWEKEDAVNIIQ FWLAADNFQSQLAAKKGQYDQGEAQN DAMILYDKYFSLQATHPLGFDRCCTIKKI ESNICREGGPLPNCFTTTLRQAWTMEK VTQNFKRKLQEVLLVELNKI
3923	11974	A	4860	3	278	
3924	11975	A	4861	2455	2871	
3925	11976	A	4862	656	949	LLHRFCRWPALAPGAILRQIPKKQQRVG LHYSPPMSYVSWRYRVCHWTITVFCLSK TLATSYARPASISVKNTKWRCFPLPKVK TNH*NIRICLPPPR
3926	11977	A	4863	448	582	
3927	11978	A	4864	495	920	WRRRDRCASHHFAVSVTTIGSSRDPDAG SLPVHSWRRKERRSALYLHRSRSHRRT YPRRDRRRAFWFVQPRCWLAAILSGH*T GGCT*NIRSHQLGTSQTLRCVQNHRCR RCRSSDRPRLRVLSWHARKYQTPGRCSE R
3928	11979	A	4865	1	2799	
3929	11980	A	4866	3675	4064	VSSDQNRRCNRCYGRQLPGGCFSLWC QFSASKSYLSPSDL**W*/QLSPSASRLPL ASLTISSSLSCAGSASFHSRSHIPGRCTCR YLRVFGVAFWAVW**HVDFLKSQQGKS

						AKKRQIAEKGRNYTQNP
3930	11981	B	4867	1	2325	MNLMEQPAKDQYLSTQGLPVLVNSLAR YPQEALPITNYFAASELAPAVARAFNKL KTLRENARSWLLKYPEHALTGLLPAALG KAGEAQDNARAALRMLTENGHQPLLQE IARRYNQPEVTDVAVNALLALDPLDNHPT KIPTLPAFYQPSLWTRPVKANAQSLPDS ALLHLGEMLRFPQEEALYPGLLQVKDVC SADSLAGFAWDLFTAWQTAGAPSKESW AFTAEFSSKRRQTRKEIFLSRMEQILPWQ NMVEVIEFFYPKAGNGRRPYPLETMLRI HCMQHWYNLSDGAMEDALYEIASMRL FARLSLDSALPDRTTIMNFRHLEQHQL ARQLFKTINRWLAEGVMMTQGTLVDA TIEAPSSTKNKEQQRDPEMHQTKKGNQ WHFGMKAHIGVDAKSGLTHSLVTTAAN EHDNLQGNLLHGEKQFVSAMPATKEP QREELAEVDVDLLIAERP GKVKTLKQNP RKNKTAINIEMKASIRARVEHPRIKR QFGFVKARYKGLLKNDNQLAMLFTLAN LFRVDQMIQLPTYELSSGIGAVRRQAE DGTPAINSKRVYRIMRQNALLERKPAV PPSKRAHTGRVAVKESNRWCSDGFEE CCDNGERLRVTFALDCCDREALHWAVT TGGFNSETVQDVMLGAVERRFGNDLPSS PVEWLTONGSCYRANETRQFARMLGLE PKNTAVRSPESNGIAESFVKTIKRDYISIM PKPDGLTAAKNLAFAFEHYNEWHPHSA LGYRSPREYLRQRACNGLSDNRCLEI*
3931	11982	A	4868	82	199	
3932	11983	A	4869	882	1091	VCHAAPPILRTTATSVPVPGAASDSGY AAQFAAYIAC*LRAAFPSGGIHTAASHPS SISPRQVVTAGS
3933	11984	A	487	77	199	SKSRPIASNKIEAIKSLPAKKPGPDGFAT EFYQTFKEEL
3934	11985	A	4870	3	274	
3935	11986	A	4871	2888	3076	KTITNWRCSRWPTCFGR TK*YHWHQL LSMVRQLMVLWSKKISSWFMGPPIIRKSI LAENSI
3936	11987	A	4872	1	2043	
3937	11988	A	4873	222	513	PEGAPRTPGPLPRAPGRTSEGAGRRGGP LGPVVTMCLPRRQLSYPDVG*AEGGLPA LDPWPGHARGSEGPRRQGGAVLAVRLG GRVYVHLHTPGGQ
3938	11989	A	4874	20	161	



3939	11990	A	4875	1	2251	MAGVGAGPLRAMGRQALLLLALSHRRQ GLYFHIGETEKRCFIEEIPDETMVIGNYRT QMWDKQKEVFLPSTPGLGMHVEVKDP DGKVVLSRQYGSEGRFTTSTHTPGDHQI CLHSNSTRMALFAGGKLYREERFRLTSE STNQRVLWWSIAQTVILITGIWQMRHL KSFFEAKLKVRAALLSSAMEDSEALGF EHMGLDPRLLQAVTDLGWSRPTLIQEKA IPLALEGKDLLARARTGSGKTAAYAIPM LQLLLHRKATGPVVEQAVRGLVLVPTKE LARQAQSMIQLATYCARDVRVANVSA AEDSVSQRAVLMEKPDVVVGTPSRILSH LQQDSLKLKRDSELLLVDEADLLFSFGF EELKSLCHLPRIYQAFMSATFNEDV QALKEILHNPVTLKLQESQLPGPDQLQ QFQVVCETEEDKFLLYALLKLSLRGKS LLFVNTLERSYRLRLFLEQFSIPTCVLNG ELPLRSRCHISQFNQGFYDCVIATDAEV LGAPVKGKR\GAEGPKGDKASDPEAGV ARGIDFHHVSAVLNFDLPPTPEAYIHRAG R**CDGPGICMTARANNPGIVLTFVLPT QFHLGKIEELLSGENRGPILLPYQFRMEEI EGFRYRCRDAMRSVTKQAIREARLKEIK EELLHSEKLKTYFEDNPRDLQLLRHDL LHPAVVKPHLGHVPDYLESKVPEPTAQL QAQRKEIQTHSQALLRLLGLSGAEHIVE HRLTPFVDRRGSGAYCTA
3940	11991	A	4876	2	2318	
3941	11992	A	4877	866	1150	
3942	11993	A	4878	417	872	
3943	11994	A	4879	3	282	
3944	11995	A	488	29	380	SETPQAPTLPQTQGSLLGEERMEDIRLT VALFTLICCPGSDEKVFEVHVRPKKLAV EPKGSLEVNCSTTCNQPEVGGIETSLD KVFAQTEQAQWKHLLGSSNLSPTVLA HCHFH
3945	11996	A	4880	2	437	
3946	11997	A	4881	336	442	
3947	11998	A	4882	523	630	
3948	11999	A	4883	1	1004	MAPWPHENSSLAPWPDLPNTANTS GLPGVPWEAALAGALLALAVLATVGGN LLVIVAIAWTPRLQTMNVFVTSAAAD LVMGLLVVPPAATLALTGHWPLGATGC ELWTSVDVLCVTASIELCALAVDRYLA VTNPLRYGALVTKRCARTAVVLVWVS AAVSFAPIMSQWVRVGADAEAQCHSN PRCCAFASNMPYVLLSSVSFYLPLVM LFVYARVFWVATRQLRLRGELGRFPPE ESPPAPSRSLAP/APGYANSFNLICRS PDRSAFRRLLCRCGRRLPPEPCAAARPA LFPSGVPAARSSPAQPRLCQRLDGERHL
3949	12000	A	4884	144	1423	
3950	12001	A	4885	1309	1702	
3951	12002	A	4886	1	648	
3952	12003	A	4887	1	1049	GGGGTTWPASVPPRHLACLRPAAPRLRP PSPARRAMPVAGSELPRRPLPPAAQERD AEPRPPHGELQYLQIQHILRCGVKDD RTGTGTLVFGMQARYSLRDEFPLTTK RVFWKGVLEELLWFIKGSTNAKELSSKG VKIWDANGSRDFLDLGFSTREEGDLGP VYGFQWRHFGAEYRDMESDYSQGQVD QLQRVIDTIKTNPDRIIMCAWNPRDLP LMALPPCHALCQFYVNSELSQLYQRS GDMGLGVFNIAASYALLTYMIAHITGLK PGDFIHTLGDHIIYLNHIEPLKIQLOREPR PFPKLRILRKS*RKLIIDFKAEDFQIEGYN PHPTIKMEMAV
3953	12004	A	4888	437	851	

3954	12005	A	4889	1	1063	
3955	12006	A	489	27	406	
3956	12007	A	4890	496	701	
3957	12008	A	4891	875	1156	
3958	12009	A	4892	76	382	
3959	12010	A	4893	71	228	
3960	12011	A	4894	69	242	
3961	12012	A	4895	146	431	
3962	12013	A	4896	3	262	
3963	12014	B	4897	185	338	MSTTFMGRSQATGGCVQTDTPGPPTLLQ DTQQLSVVHPDIQLEVGFPGGGGX*
3964	12015	A	4898	69	303	
3965	12016	A	4899	260	881	
3966	12017	A	49	245	616	NPPN*NPPNACVKPEFENQPKLWSQRG VGGPRREGPPAQAPEGTAGRRADKL RVGWRPPPATSQAQSAHSPPLFC*SSRSR GPSSPCLEAPTPGASPST*TITPPRAWRR ACWTWPCSCPTPCG
3967	12018	A	490	191	1074	RLPEMSSFGYRTLTVLFTLACCPSDE KVFEVHGEAKGSWAVEPKGSLEVNCS TCANQP*SGVGLGDLS*D*GFCWDEQVQ L/WKHYLGFQTFSHDTVLQCHFTCSGK QESMNSN/VSALYQPPRQVILDTCPNLL GGFLGKSFHHLKLQGVPTVEPLGQP*PSF LVSVGNETLAHYETFGKAAPAPQEATATF NSTADREDGHRNFSCLAVIDLMSRGGNI FHKHSAPKMLEIYEPVSDSQMVIIVTVVS VLLSLFVTSVLLCFIFGQHLRQQRMGTY GVRAAWRRLPQAFRP
3968	12019	A	4900	373	491	
3969	12020	A	4901	1	232	
3970	12021	A	4902	3	701	
3971	12022	A	4903	3	1622	
3972	12023	A	4904	26	168	
3973	12024	A	4905	258	484	
3974	12025	A	4906	1121	1518	
3975	12026	A	4907	19	541	
3976	12027	A	4908	288	561	
3977	12028	A	4909	1	1857	
3978	12029	A	491	3	403	SWSGSAAALRMRPVRLMKVFVTRIPA EGANLKVISTMSVGIDHLALDEIKKRGIR VGYPDVL/TRYHRRTRSLPATYHLPV AGGHRGSEEWWTWWSWKPLWLCGYGL TQSTVGIIGLGRIGQAIARRLKPF
3979	12030	A	4910	81	414	
3980	12031	A	4911	1	507	
3981	12032	A	4912	519	858	GLSEILAIGFCPHQVQRGPKVLQSLA AQLPGPFTRLVHRRQSLHAVPKCIHAVP CSFTLFHLPQEGLRPEFLAPWGLHLKA TPVWPFANPRCCSILGAGGYFVQLTLGM S
3982	12033	A	4913	67	467	
3983	12034	A	4914	2	307	
3984	12035	A	4915	1	2112	
3985	12036	A	4916	796	1018	
3986	12037	A	4919	512	625	
3987	12038	A	492	2	465	DAAGANLKVISTMSVGIDHLALDEINKR GIRVGYPDVL/TRYHRRTRSLPATYHLP PVAGGHRGSEEWWTWWSWKPLWLCGY GLTQSTVGIIGLGRIGEAPTGPLARPGSHS VVCIPGTTCLKAEKTHMLSGHFACSRDIS NEGYSFVKHRQIHK
3988	12039	A	4920	206	366	
3989	12040	A	4921	504	690	

3990	12041	A	4922	3	336	
3991	12042	A	4923	22	129	
3992	12043	A	4924	852	1364	
3993	12044	A	4925	1	897	
3994	12045	B	4926	449	2578	MLLECEEEAVCVIMCASVKYNIRGPALIP RMKTKHRIYYITLFSIVLLGLIATGMFQF WPHSIESSNDWNVEKRSIRDVPVRLPA DSPIPERGDLSCRMHTCFDVYRCGFNPK NKIKVYIYALKKYVDDDFGVSVSNTISRE YNELMAISDSDDYTTDDINRACLFVPSID VLNQNTLRIKETAQAMAQLSRWDRGTN HLLFNMLPGGPPDYNTALDVPRDRALL AGGGFSTWYRQGYDVSIPVYSPLSAEV DLPEKGPGPRQYFLLSSQVGLHPEYRED LEALQVKHGESVLVLDKCTNLSEGLSV RKRCHKHQVFDYPQVLQEATFCVVLRG ARLGQAVLSDVLQAGCVPVVIADSYILP FSEVLDWKRASVVVPEEKMSDVYSILQS IPQRQIEEMQRQARWFWEAYFQSIKAIA LATLQIINDRIYPYAAISYEEWNPFAVK WGSVSNPLFLPLIPPQSQGFTAIVLTYDR VESLFRVITEVSKVPSLSKLLVVWNNQN KNPPEDSLWPKIRVPLKVVRTAENKLSN RFFPYDEIETEAVLAIDDDIIMLTSDLOF GYEVWREFPDRLVGYPGRLLHWDHEM NKWKYSEWTNEVSMVLTGAIFYHKY FNYLYTYKMPGDIKNWVDAHMNCEDIA MNFLVANVTGKAVIKVTPRKKFKCPECT AIDGLSLDQTHMVERSEKINKFASVFGT MPLKVWEHRA*
3995	12046	A	4927	533	804	
3996	12047	A	4928	965	1109	
3997	12048	A	493	217	426	TLVNMVEADVTTTRCLIRSGIRVGYTPDV LTRYHRRTRSLPATYHLPVAGGHRGSE EVSERRPGAVAHGC
3998	12049	A	4930	507	981	CWRSTATCYQWVIKSANRCTLQVGTTR RTMDNGDERHSRICPGM*EAARSLFIPT/ CQTRH*RPVPQRLRSNTAPIRT/RPRPSV HRPTGRESMPRTRPPEPEPLQTPLAATKR RSTENASYSDALLRGLGKLGKGDREAR RGPRSRPGSRVQTAGAAL
3999	12050	A	4931	1121	1272	
4000	12051	C	4934	178	360	MGQELRHFGTVTWPMHRKMERRXFPRE QGPGXQLLPQWRGNEKTLGSAGRQGED HRLRAE*
4001	12052	A	4935	409	516	
4002	12053	A	4936	288	573	
4003	12054	B	4937	1	1152	MGSEAGCLVRAERFQLIVERDVRSSFPS WKELSMPGFIQKQARVYVQFFLADALI LPVPRCLHSATPSTPQTDPTGPEGPHLG QSRLFLCHKEALMKRNFVPPGASPEV PKPALSFYVLGSLWGGTQRKEGTGWGL PEPQGNDDNDQKVHLIFFGSSVRWFEFL HPGQVYRLIAPGPATPMLFEKDGSSCISR RPLELAGCASCLTVQDNWTLLESSQDI QDVLANKSLPESSLTDLSDKSHNVYC CFRSSTYVQVLSFPPETTISIPLPHIYLAEL LQGGQSPFQATASCHIVSVFSLQLFWVC AYCTSICRQSSARVDEPMTMFLWTLCTS PSVLRPIVLSFELERKPSKIVPLGTSPSRSS FQFFAARAKGGK*
4004	12055	A	4938	409	701	KEKVKVNWLLNPLPKAQEFGYPSPLPA TLHLKLSRCKLQDH/CCCHMVIHTGH HFGSPILHQEPMGSRKYSRL
4005	12056	A	4939	301	573	

4006	12057	A	494	80	1058	RCSSPAGYPPRCRVALARAADCEVEQW DSDEPIPAKELERGVAGAHGLCLLSDH VDKRILDAAGANLKVISTMSVGIDHLAL DEIKKRGRVGYTPDVLTRYHRRTRSLPC SYHLA\PLAGGL\QGSEEW\WTSW\KPK LWLCGYGLTQSTVGHGLGRIGPGPLLGV LKPFQVQRFL\YTGRQPR\EEAA\EFQAE FVSTPELAAQSDFIVVACSLTPATEGLC NKDFFQKMKETA\VFINISRGDVVNQDDL YQALASGKIAAAGLDVTSPEPL\PTNHP LLTLKNCVILPHIGSATHRTRNTMSLLAA NNLLAGLRGEPMPSELKL
4007	12058	A	4941	339	494	
4008	12059	A	4942	408	546	
4009	12060	A	4943	1421	1581	
4010	12061	A	4944	1	1113	MHQEDLRAWYLDLGLPSHQNAQPTAW KCQRAPSPYTHQDMALIPSPARWLSPE KEPKQGEVGEKSLPDPTLPLTDPRLTGS TEQAHAEGLAALMSALRVSHLQGRGGV VTLVDSQLGVIAVSSTQFNKGPSYRLLA DVQNRLLPKYDSQKEAELRSWIKGFTGL SIRPDFQKGLKDGILCTLVNKLQPGSVP KINASV*NWH*LENLSNFLKAMVSYGM /NPVDLFEANNLFESGNNMQVRVSLAL AGKAKTKGLRSGVDIRDKYSEKQNFDD TTMKASQCVIRLQITNKCASQSGMTAYG TRRHLYDPKNRILPPMDNSTISLQMGTN KCASQVGMTAPGTQRHIYDTKLGDCKCE NSSMSLKMGYT
4011	12062	A	4945	272	902	
4012	12063	A	4946	281	470	TGWSWQCTPSC*TTMCVYTFMTYTWAW GCPNHNHVQPHA*PVSPTVLLNVGFRAGA VFSGHGYL
4013	12064	A	4947	1192	2248	APSKKLRSATLRRPGSSKDTARGPVSVG WCPSQEPLGARCATSCPWLCRLPSSVFS PRALAIRLGGGSGSLAGCAARLQGSVP CWPLARLRSASATPLSELRQQPAPPPRC DPGSRLSVPVAPCPAPRAPQPRRLSPGP RFCRCPSLSVCRSLG/PVSPPPQFLPPCLP RWLARSLALGRGETASQANPRNLCKKL AMKFKKFFDFGAIFEWSQSFPLSPRPVRF PLEPEGSPVPASLPERPSRHPASSGRLO DPGLILCSLCHYLFIRTDYAVVTRAGNG GECVWLQKFVVKLASLMSFGLYIGHF LGVPPANPQEA\PRTRS\FTPKSVMEPSAV PGTAERVLHPG
4014	12065	A	4948	654	730	
4015	12066	A	4949	1574	1881	
4016	12067	A	495	3485	4056	DLPSRHRVMEACHVCCVRRGCCV/CAC /ICVCHMCSVWCVRVLCVPQVLCVVH ALCV\CVCLQCARYVWCMCCVCSVLC MRCV/CVCVPRVLCV\CVCCGCSRCSVW CVCCVCRV/CLCV/CACAVWCVCMC/L CVLCV/CACACVCCVCRVCSVWCVRV/ CVCCACSVWCVLWCVC/VCMQVCVY WCMCCVCCVLE
4017	12068	A	4950	207	315	
4018	12069	B	4951	199	420	MSLPIGIYRRVSYDDTLEDPA\MTPPPS DMGSVPWKPVIPERKYQH\AKVEEGEA SLPSPAMTLSSAIDSVDK*
4019	12070	A	4952	336	594	
4020	12071	A	4953	401	1301	
4021	12072	A	4954	388	681	
4022	12073	A	4955	272	452	
4023	12074	A	4956	256	381	
4024	12075	A	4957	58	301	
4025	12076	A	4958	562	1221	

4026	12077	A	4959	152	358	
4027	12078	A	496	1	858	
4028	12079	A	4960	184	361	
4029	12080	A	4961	2017	2406	
4030	12081	A	4968	1	396	
4031	12082	A	4969	67	180	
4032	12083	A	497	106	542	GATLGGMSEHVEPAA\PGPGPNGGGGGP AP\ARGPRHPQFSTPTPLINVRDRLFHAIL FFKMAVITYSRLFPPAFRRLFEFFVLLK ALFVLFVLAYIHIVFSR\SPINCLEHVRD KWPREGNPALWKVRHNSSRAPVFLQ\FC DISGGR
4033	12084	A	4970	2	415	
4034	12085	A	4971	1090	1203	
4035	12086	A	4972	3	356	VQNRTLHFSLLYEPKRKSKPESYLYCYKI FQDEPLAP*AFL*IPASLSQIQ*FTSRK GK ASQNLIIYVIKYSKMSLWPPEPSCKYLPP CLKSNSSQLSWLLWCVLVWGVGWKYC QGWWGPPHLVSLWGGYSASRWEDIGK QHTSLRGVPKGVIFIIYI
4036	12087	B	4973	148	305	MDNSASVEQLQETLLRALRALVLKNRPL DTSRFTKLLKLPCGPFISSLGHN*
4037	12088	A	4974	484	927	
4038	12089	A	4975	2053	2615	RGCPFGGRKAPFGLLFNVKDQTMFLSR TTYSLQELGAMGMGDLLSAMFDFSEKL NSLALTEELGLFTAIVLLVSADR\SGME NSASVEQLQETLLRALRALVLKNRPLE TSRFTLLLLKLPDLRTLNNMHSEKLLVLS GWTAPVTPPRAGLSAGCPLCTESELCTS LSFYETEKEKQTRILFILL
4039	12090	A	4976	173	520	
4040	12091	A	4977	44	213	
4041	12092	A	4978	840	980	
4042	12093	A	4979	72	464	
4043	12094	A	498	309	586	NKNLEISFFFETESRCCQPR\AECNGAISV HCNLC\PGSSNSPTS\ASQVAEMTGVC HAQLIFVFLVAMVFHLH/VGQGGLELLT SGGPPASASQ
4044	12095	A	4980	1	132	
4045	12096	A	4981	99	212	
4046	12097	A	4982	84	196	
4047	12098	A	4983	2	186	
4048	12099	A	4984	87	347	SLNFHIGQ*AQPHAGFGLRGS*GPCPPCC QANAC*APEPNDSMEDQAPGVRHPPLSN VKIQGSE
4049	12100	A	4985	176	1554	
4050	12101	A	4986	1	1863	
4051	12102	A	4987	1171	2784	
4052	12103	A	4988	176	464	
4053	12104	A	499	3	451	
4054	12105	A	4990	7	394	HHELQYPIRFCPIKSCCKGRNSLQNKIYD LSLQNFPPATLRQNLALSPRLECSGTISAP CNLHLP\GSSDSPASASRVVAGNAGMHCH KQLIFVFLVETGFHHVAQAQLRTP*PCG SGPPRGPKSAGDLQ

4055	12106	A	4991	1	2201	MTNLMAMVERDSEAGTAASRFPGNHAAK GKAQAHYKVVWRPAEVRCLKLGPEWVT LRYTIKHPYKLCGKRQHVFFTSRSDV GFMLTTLKPFGSVSVESKMNNKAGSFF WNLRFSTLTVSTSRMTMLCCLGLCKPKI VHSNWNILNMFHNRMQSTDIIRYLFQDA FIFKSDVGFQTKGISTLTALRIERLLYAKR LFFDSKQSLVPVDKSDDELKKVNLNHEV SNEDVLTKETKPNRISSRLSEECNSLSD VLDAFSKAPTFPSSNYFTAMWTIAKRLS DDQKRFEKRLMFSHPAFNQLCEHMMRE AKIMQYKYLLFSLHAIVKLGIPQNTILVQ TLRVTQERINECDEICLSVLSTVLEAME PCKNVHVLRTGFRILVDQVQWKIEDVFT LQVVMKCIGKDAPIALKRKLEMKALREL DRFSVLNSQHMFEVLAAMNHRSLILLDE CSKVVDNIHGCPLRIMINILQSKDLQY HNLDLFKGLADYVAATFDIWKFRKVLFI LILFENLGFPRVGLMDLFMKRIVEDPESL NMKNILSILHTYSSLNHVYKQCNKEQFV EVMASALTGYLHTISSVNLDAVYSFCL MNYFPLAPFNQLLQKDISELLTSDDMK NAYKLHTLDTCLKLDDTVYLRDIALSLP QLPRELPSSHNAKVAEVLSSLGGEGH FSKDVHLPHNYHIDFEIRMDTNRNQVL PLSLDVGTTSATDIQRLTYISFAGLSEL KS
4056	12107	A	4992	3	485	LHTLDTCLKLDDTVYLRDIALSLPQLPRE LPSSHNAKGGQRS*AALLGGEGTPPSK DVHLAPHNYHIDFEIQNGTPNRNPSAYP LSDVDTTSCQLQFKE*LCYVFPRSAyclG SSHPRGFLAMKMRHLNAMGFHVILVNN WEDGQTRDGRCQSPFLKT
4057	12108	A	4993	40	131	ATKAFEENEVYKTTLVVYCFKCVILKA SL*FRILLTEWFYMRWLKKYHIVCF/PLG DAKIFCFMYITVLFKTLSDSC*TLVVYCF FKCVILKASL
4058	12109	A	4994	2437	2762	GIILFWAQLFPASFFFFF*DGVSLLCCPG WSAVVRSQLTASSASRVQAILCLSLPSS WDYRHLPPCLANFFVFL/CRDGGFTMLA RLVLNS*AS*VHPPWPPQSAGDY
4059	12110	A	4995	1	299	FSLIKISMMLLMKMEK*NLQFIW/KPRRL QIAKARLNASSSSSSSSSSSSSSSVVW YWHKKRHIDHWNRLSNSNINRHICSQLI LTKVPGANTKDHP
4060	12111	A	4996	3	358	
4061	12112	A	4997	76	386	VLPPSSPALHSPAPPSTCPYLPGA/PPLL PPCAGRSPPAAAAPHCPAPCAPRH*GSR* LESPAPQGPQSRAARMPAWPLPPAPPTD PTAPPAPRSHWPAAPPT
4062	12113	A	4998	66	381	VLPPSSPALHSPAPPSTCPYLPALPPLE/ GPPSRPPRTFIGNPGGQGPGEVSPVILRS PSQPH*PGNQGPCPSSQPPGSPRSEHGC* HRCWALYGOQEKAPPS
4063	12114	C	4999	36	236	MGPTIPDXSFFWRKPITWMPTWEGTSN VGPQPLSSSKSLHSXRGHPAPIPTGQAGP RDSGPGASP*

4064	12115	A	5	105	1711	VESNTGRKWTEAAGTGDIQCLAWGSSG DGRGGDPRGRVPAALGAAVVAAMAS PDPWAPGPKQPG/LMGRPGSSPALWAQ/ PA*PPY/FPGLTPPCQEVQSFPGPP/EEQ RVLRGGQNV*TEGRVPQVCGRRPPCPS LMEPFVYTPASPFPSGQPGTTPGRRQDG EPRLGTGGQTGSPGGLVSGPRGRAAKP GGTQGGVLRQVPPGEHPTPGEARI*HLG WVGCP*RMGQGNFGVASKPFLDL/PGPM LGSTNCDNLGSFGLS/GPMFPGWPTSTGR LPKGPSAN*GG/PGMERPPGVMPSS/GHQ DPEASGPLDLLVRAALQGG*ALGHKIGG AS*TSQKAESLPQPLGPPGGGCGITQNP LASGPKQWMSMGRPGSFPALWAQNRLT FLTTPSPPCQEVQSFPGPPGPSQGAER RARLSPRERGFLKVCGRPPCPSMMEP SCLHTC*PLSLPASLRQAKEPPSCGLRAP S*HLRRPCLTPPFRPQGLLGTSHCPQKPA PDSGLLHSPNSPRGFSGQCNPRLHPQL NPSNRDR
4065	12116	A	50	96	547	ADPAAPVPWFGPSQPGARAQWPGLLGP AAPPALCSP*TDSGVQDPVSNAPWVN SQQWWRQ/PAATEKPPATKAPGLLVQEK YKVS*QKGW/PSTKKAKGYFP*NCPL QFLPLLSLPPGDISGQCPLPKLIPPPS YPAPCPGFCPR
4066	12117	A	500	2	493	GLEFGTSHRLRENPPMVAVSCPTKTNVK GPPGGKVGAHAGVEYGSEALERMFLSFP TVTKTYFPHFDLASHGFAQVKGATAKKV ADALTKAVANVDDMPNGAVRPEATL HAHKLREVPVNFKLLKPLACLVDPGA HLPGRVSLAVARLPWNKVSFAFCGQI
4067	12118	C	5000	231	521	MRAPVCQSQSVYFTQTISLKPTITVPGRC DAFQVTNNKLAQATQSEGVAGASNPDL ESHEPAHGMQREFSGVTAVSQADTVMN YPVSNWENRGSG*
4068	12119	A	5001	46	1438	LSTPTALVWPGHRPP*PIP*WPLCPQEGG PGGLPRGWSSGTVP*P*AGGCEGKIQS YPQGSASWSEPAPSPS/PAFPAPFLMLNC SGPLALSLSGPKWAREQL*CVPPRALAT GLPLEVWL*LRPFWP*CLPPPG/PWWQL LHSLSSCWGPPMPRTIRGIPPGSICRLCF CPAAGLPPWWLSSGQLPHPPGTPLCSVS *GGPDQPLLCLSPWAPGLSSTALCHSRL VLPATPIPVVTWPSGLSTI/PPAPGATPT PAACFQQVPSAPDKPLLVSPPAKHPPVP PPVGLGLRAMDR/PPGPIPETPRDLPCHP TPPKSKLQARGPWGWVD*TTSGWKLK KEALMGPTIPDPKSSSWAGPLVSLPLV GGNPSPWNALRGKRDPRKCGNPQPPSPK LRKSPPTAPGKTPAPYSPREKAGPQKTL GPRGPPP*SRDPPL*LRTPADPGVTRGA GPPAPRRNP
4069	12120	A	5002	1	874	LDDALESCDEHGYRTASSSCLRKGMV KSSSNREL*SRYTDTI/SGSTSEFPDWA AGQRGSSHPRRWAARQRRSSLHLYSEP DTDAKHQDDALTEET*G/SRSASCAHW L*SNCCTATGSSTLLPLTSRL*LPRMAVK SSRASAALPSSRFSSWHRACASPAAT AAPSAWGLSSNIPSGPAGCAPRPPTSFSL PGALPTTTRRRHSSDRSRSPSRGLTSAR ESGSKSPQ/GTARDSRQALRSAMVTKTS WRMELDRECGRSSCTSTFCVSAASRGFL LQTSFRWE
4070	12121	A	5003	1	2487	

4071	12122	A	5004	227	2119	RCRKEMFSLCWAYYCI*KLQOIPMLRAP LPTLDPV*SP/GGASTATNSGSSVTSSGVS TATISGSSVTNSGVIVTNSEFHTTSSGIS TATNSEFSTASSGISIATNSESSTSSGAST ATNSESSTPSSGASTATNSDSSTTSSGAST ATNSDSSTTSSEASTATNESSTTSSGAST ATNSESSTVSSRASTATNSESSTTSSGAST ATNSESRTTNGAGTATNSESSTTSSGAS TATNSESSTPSSGAGTATNSESSTTSSGA GTATNSESSTVSSGISTVTNSESSTPSSGA NTATNSESSTTSSGANTATNSDSSTTSSG ASTATNSESSTTSSGASTATNSESSTTSSG ASTATNSGSSTTSSGTSTATNSESSTVSS GASTATNSESSTTSSGASTATNSESSTVSS GASTATNSESSTTSSGANTATNSGSSVTS AGSGTAALTGMHTTSHSASTAVSEAKPG GSLVPWEIFLITLVSVVAAVGLFAGLFFC VVSACVPLCECRDALKMPGGLEQLL TES RIVHWGTEGRPIATAEGWVLLLAMKIRL AAEAKIKCFLDGMAGLRSSLSRLGSQ AEALPTSQTMGGQAETLLSSQTGSRPNR GLFSLRRWAAGQRRSLTS
4072	12123	A	5005	124	670	FQRTKLLNGPGDVETGTSITVPQKKWLH VISPIFVQSLTLPFLAKWGDRQLQLLQIEL AAREVSDI*EETV*NETYLLLLSRKTLD TLKWAHSIPSYARLFYI**FCSCLKLAFSQ FLLPA/DPYGVAVGGTVGHCLCTGLAVI GGRMIAQKISVRTVTIIGGIVFLAFAFSAL FISPD SGF
4073	12124	A	5006	3	273	AAAPGNGRASAPRLLLLFLVPLLWAPAA VRAGPDEDLSHRNKEPPAPAQQLQPQPV I AVQGPEPARVEVSGPGWGERGCRAGC AEYQAPGL
4074	12125	A	5007	2	986	AAAAPGNGRASAPRLLLLFLVPLLWAPA AVRAGPDEDLSHRNKEPPAPAQQLQPQ PVAVQGPEPARVEKIFTPAAPVHTNTE DPATQ/TNLGFIHAFVAAISVIVSELGD RTFVIAAIMAMRYNRPGPCWAGAMLCL/ AGLMTCLFS/VLFGYATTVIPRGLYILMF QPVLFAIFGIRMLREGLKMSPDGEQEEL EEVQAELKKKDEEFQRTKLLNGPGDV ETGTSITVPQKKWLHFISPIFGQALTLTF LAEWGDRS*LTITIVLAAREDPYGVAVG GTVGHCLCTGLAVIGGRMIAQKISVRTV TIIGGIVFLAFAFSALFISP
4075	12126	A	5008	2	439	
4076	12127	A	5009	3	366	RDSVVEILFEQDNKEQSVATLILDSLIQCP IDTRKQLAENLEMMFMDVGKTQPLLKRA FSTEK*KFD*/TINLASYQIFNQL*ANCTK YVGC FVIEDYSGSESILCLLFALIYNSDF VSLV
4077	12128	A	501	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFDSFGNLSSASAIMGN PKVKAHGKKVLTSLGDAIKHLLDLKGT AQLSELHCDKLHVDPENFKLLGNVLT LAIHFGKEFTPEVQASWQKMTGVASA LSSRYH
4078	12129	A	5010	387	446	
4079	12130	B	5011	16	348	MVLDCGYRESVLPIYEGIPVLNCWGAL PLGGKALHKELETQLEQCTVDTSVAKE QSLPSVMGSVPEGVLEDIKARTCFVSDL KRGLKJQA AKFNIDGNNERPSPPKC*
4080	12131	A	5012	1	595	MGCRPVGOAGLELLTSARTCFVSDLKR GLKIQAAKFNIDGNNECPIDTRKQLAENL VVIGGTSMLPGFLHRLAEIRYLVEKPKY KKALGKTKFRIHTPPAKANCVAWLG/GK VFVGI*QVEYAMKA VENSSTAIGIRCKD GVVLGVRKISPF



4081	12132	A	5013	3	461	YIEDDMNPFQGNLEEQRPKSKTFL*QG AAEQIKHILANFKNYQFFIGENMISDGM VLLLDYVKGWVCPYMIFFKDGLDMD KMLNKCGLFWIYHPVIHNWASALSSH TTTRDLRQNWTDCHPGALPFILDWGFYL GVGGHCFYEKPCPW
4082	12133	A	5014	3	325	RRVSSVTQAGVQWHGLGSLQPPPGFKL FCLSLPRSQDYRCMPRPANFC/IFLVETG FHPAH*DKLVSNS*PCGPPAPASQSAGIT GVT/HRAHLPCNV/C*LDLFHHHV
4083	12134	A	5015	1593	4449	PSGLGNTCIYRRGPHLPNSHRHAARGJS ADDRFRHLGHRELHPAPCVPGRGEPHPA PCVPGHGHLPALCVPGRGQLHSVPCIP GRGEPH/RCTLCPRSWA/RCTLHPRDLRF NRIREIQPGAFFRLRLNLTLLNNNNQIKRI PSGAFEDLENKYLKNEIQSIDRQAF KGLASLEQLRLDSNTLHCDCEILWLADL LKTYAESGNAQAAAICEYPRRIQGRSVA TITPEELNCERPRITSEPQDADVTSG
4084	12135	A	5016	1	3174	
4085	12136	A	5017	1	4759	SRPWWLRASERPSAPSAMAYRSRGPGR RCLLALVLFCAWGTAVVAQKPGACGP SRCLCFRTTVRCMHLLLEAVPAVAPQTS ILDRLFRNIREIQPGAFFRLRLNLTLLNN NQIKRIPSGAFEDLENKYLKNEIQSI DRQAFKGLASLEQLYLFNQIETLDPDSF QHLPKLERLFLHNNRITHLVPGTFNHLES MKRLRLDSNTLHCDCEILWLADLLKTY AESGNAQAAAICEYPRRIQGRSVATIT
4086	12137	A	5018	2	267	ADLSAEAL*TRREWDDIFKVLKTSS/LGQ PKILYPSKLSLINEASSSSSSSSSS/REFT RLVL*EMLKGILHMEAQQQYLP*KHTK V
4087	12138	A	5019	1	164	TRVNENQIESKAA YALFYKRQDVARRLL SPAGS/SGAPASPACSSPSSSEFMDVN
4088	12139	A	502	38	557	APSPDAMGHFTEEDKATITSLWGKVVN EDAGGETLGRLLVVYPWTQRFFDSFGN LSSAFCHPWATPKVKAHGKVLTSAGD AIKHLADDLKGVTFAQA*SETALVTKLHV GS*RTFKLPGEMLLGDPLGNPIFGKRISP LEVGRLSWAERWVTWSWPVALVLPRLP LKLNC
4089	12140	A	5020	1	712	EILIIHLKRFSYTKFSREKLDTLVEFPISG ARERMAGGRQGKEGVYQY*PSPHPQDL DFSEFVIQPNESNPELYKYDLIAVSNHY GGMRDGHCMCQAVGGACPGGSGQGGD QDLPSE*LGM*ASGEGSSVVGK*TRSEI WTLSEEARKGRRG*LSFPFRITTFACNKD SGQWHYFDDNSVSPVNENQIESKAAV LFYQRQDVARRLLSPAGSSGAPSPACS SPSSSEFMDVN
4090	12141	A	5021	3	3090	IPLLQLLRRLWRRHGRWTEPREPQHEE LPGLDSQWRQIENGESGRERPLRAGESW FLVEKHWYKQWEAYVQGGDQDSSTFPG CINNATLFQDEINWRLKEGLVEGEDYVL LPARAWHYLVSWYGLEHGQPPIERKVIE LPNIQKVEVYPVELLLVRHNDLGKSHTV QFSHTDSIGLVLRARERFLVEPQEDTRL WAKNSEGLDRLYDTHITVLDAALETGQ LIIMETRKKDGTWPSAQLHVMNNNMSE EDED
4091	12142	A	5022	1	1584	
4092	12143	A	5023	1	3519	
4093	12144	A	5024	3	673	
4094	12145	A	5025	3	2383	
4095	12146	A	5026	2	2348	
4096	12147	A	5027	1	7338	

4097	12148	A	5028	2	7106	KSKRQAQQMVPQSPVAVSQSKPGCYD NGKHYQINQQWERTYLGNVLVCTCYGG SRGFNCEKPEAEETCFDKYTGNTRYVG DTYERPKDSMIWDCTCIGAGRGRISCTIA NRCHEGGQSYKIGDTWRRPHETGGYML ECVCLGNGKGEWTCKPIAEKCFDHAAG TSYVVGETWEKPYQGWMMVDCTCLGE GSGRITCTSRNRCNDQDPRASYRIGDPW SNKVHVRGNLLQCUCTGNARGEWK CERH TSVQTTSS
4098	12149	A	5029	1	389	
4099	12150	A	503	318	449	ERKKKKMATVQKGM/PHKYYHGKTGS YNVIQHAVGNAVTRNRGS
4100	12151	A	5030	2	554	ADALGRPTRPASQSRCTRSQSVGPSGFG GGHRGE/SGRAYVWQPPYGSSE/HASGL RYWSRRLRPAAGSFAAVCSRSVASKTPV GFIGLGNMGNPMAKNLMKHGYPLIYD VFPDACEFQDAGEQVSSPADVAEKA DRIITMLPTSINAIEAYSGANGILKKVKK GSLIDSSTIDPAVSKELA
4101	12152	A	5031	1	1123	MGNPMAKNLMKHGYPLIYDVFPDACK EFQDAGEQLCPNLDVNHFPVQRLHAAD TPWPISHLLAASVIGCCDIACLFSGRVSIS SLCVTISSQADEVRAKENKPIQHPTKIA EMLVVSSPADVAEKADRIITMLPTSINAI EAYSGANGILKKVKKGSLIDSSTIDPAV SKELAKEVEKMGAVFMDAPVSGGVGA ARSGNLTVMVGGVEDEFAAAQELLGC MGSNVVYCGAVGTGQAAKICNNMLLAI SMIGTAEAMNLGIK/S*GFDPKLLAKILN MSSIGRCWSK*HFNPVPGVMDGVPSA N*LFRVDFGTTLHWLKDGLAQDSATST KSPILLGSLAHQIYRMMCAKGYSKKDFS SVFQFLREEETF
4102	12153	B	5032	13	441	MEGVEEKKKEVPAVETLKKKRRNFAE LKIKRLRKKFAQKMLRKARRKLIYEKAK HYHKEYRQMYRTEIRMARMARKAGNF YVPAEPKLAFVIRXRGINGVSPKVRKVL QLRLRQIFNGTFVKNKASINMLRDCR AIYCMG*
4103	12154	A	5033	1	775	RRVPAVETLKKKRRNFAELKIKRLRK KFAQQMLARKAR/KLIYEKAKHYHKEY RQMYRT*NFEWARMGKKLANFYVPA EPQIWRVFVIRIRGINGVSPKGSEFFQL RLRQIFNGNLL*KLNQGFNFMAEDF*S PYIAMGGTPNLKVSXMN*SYKRLWAK SNKKRUALVDNALIARSLGKIRHILawe DLIHEIYTVGKRFKIANNFLWPFKLSFS TKVEMKKKTTHFVEGGDAGNRVEDQIN RLIRRMN
4104	12155	A	5034	193	384	
4105	12156	A	5035	96	1636	ARSPAMAPLRPLLILALLAWVALADQES CKGRCTEGFNVDKKCQDELCSYYQSC CTDYTAECKPQVTRGDVFTMPEDYTV YERLGEEKNNATVHEQVGGPSLTSDLQA QSKGNPEQTPVLKPEEEAPAEVVGASKP EGIDSRPETLHPGARQPPAEELCSGKPF DAFTDLKNGSLFAFRGQYCYELDEKAV RPGYYPKLIRDVWGIEGPIIDAAFTIRINLF RGRPYLFKG*QYW/RAFEDGVLPWIY PRNISWTAFDGHSPGQTDVAALGLPCP LAYSGRERVYFFQRGKQYW/ESYQFPG TSPVQEECEGSSL/SAVFEHFAMMQRDS WEDIFELLFWGAERSGWVTR/QPQFHL AGEWHGVPGQVDAAMGGRILHLQG MATRPLLWPKKKRFRHNRNKGYSIQ RVAHSRGR*PETPRRP/SAWWSFVLP EESNLGA/NNYDDYRMDLALCLPTCEPI QECFFSFGDKYYRVNLRTRRVDTVDP

						YPRSIAQYWLGCPAPGHL
4106	12157	C	5036	1	300	MRSFGQLTLCPRNGTVTGKWRGSHVVG LLTTLNFGDGPDRNKTRTFQATVLGSQM GLKGGAGSVWLQAAGLGLLPASLLWPS LLCHCYVLPPAPGVPLV*
4107	12158	A	5037	359	1229	MPQPPTLGQEMTGSPQWGTGKGGPLGP* QLRAKAQEVDSHLGRKKIKQQNRSKSC
4108	12159	A	5038	2	311	VRWNSAAPLVTSRGAPASARPRGQALP GGSAPSAPHGQLPGRAQPAPVSGPPPTS GLCHFDPAAPWPGLGLGMLPPHPQDW PAQP*HPPGLGLFFEIFSAS
4109	12160	A	5039	310	415	SQYFGTLRRVDHLRSGVRDQPGQLGKTP S*PQVIHPPQCPKVLGLQYYHFLFLRRS L/DSVAQAGVQWRDLGSLQRPPGFTPF SCLSLPSSWDYRRPPRLANFFVFSVETG FTVSARMVIS*PRDPPASASQSAGDTG VSQAPV
4110	12161	A	504	1	467	DHSSSPAREQNWMENEFDELTEVGFR WVITNSSELKKHVLTOCKEAKNLEKRLG ELLTRITSLEKNINDLMELKNTARELHEA YTSINSWINQAEERLSEIEDQLNEIKRED KITEKMKNSTTVRVAASMQSKLLQGVA EEGPLRLTRSASFSA
4111	12162	A	5040	1	114	ARAEMLIQYILPRLTHCAIFTILFIFSLT *VMLLSS
4112	12163	A	5041	335	477	TPASLKIPVE**NTLLAKMVIS*PRDLPA SASQSAGITGVSHRARC
4113	12164	A	5042	135	804	GIDTILTLNQ*SLKTRQ*FTLIH/IFFFL RWSLALSPRDCGLQWRDLGSLQAPLP FTPFSCLSLPSSWDYRCPPRPANFFCNFF FSRDGGFTVLARMVIS*PQ/CDPPTLAS QRAGVTGLSHCTRLFFF*WMESPSVTQA GIQWHDGLSLQMPQFR*FSWLSLPSSQ DYRCMPPCQANFICIFSRDEVSPC*PGWS GSPDLVIHLPWPPKVLGLHA
4114	12165	A	5043	63	361	
4115	12166	A	5044	151	384	
4116	12167	B	5045	385	479	MAGAFRRRFASEVRAQGLESLEHGLRC AGSLRGGQSLPTTMWSPVKVGF*
4117	12168	A	5046	3	698	VFFFFSGCTRGPLFESDFHRAPHRCGQG LAAP*AAGAPQPRAPGETRGPEPAPHWR SASGDKPPGQAAWPPALVPGEGPSWDS PRGHRCSQATLPRVLAPLQP*LS*LSL* DPPELRSL*PPL*LRL**SLEPP*PPLDS NRFP*PRSPPLENPRPRPRPRKKPRPP AEPPTYTESVSDDLPAWSTRISVHLQTS HSWPSWASLASSMFFKVTKPNSRELWSS
4118	12169	A	5047	138	550	FCCCFTSSEHSLAYGSCSPRREVLCAQ QNPSETQAAPLASIMWK*PCNSRLKGP GPGLGEGWPESRMTSGVTVPGGTSPGT RAGGSAPCPGGLSPEALRQ*GAGSGPRVS PGA/PGCGAPAAAYGAASPCQRCCAL

4119	12170	A	5048	2	555	FFFFFLGAHVLYSNPTFTGLHIVVGKD WPPP*AAGAPQPRAPGETRGPEPAPHWR SASGDKPPGASGCLQLLFQGEVPPGDS*P QRSSLALRPFPRLVGPFPQPAKAKQR YSQRPPQGSQALPP/GPPRKQPQLRKVS G*SGGCDLRLRHRPACGRVCTLAQLEP ATRMGWSYVVGQCL
4120	12171	A	5049	1246	1379	RCLFILSFFTGRRTHTP*PPLPGLRTGFPP* PRSPPPSREPTGP/RPRPPREESPGPRQ*PP RVPHGIGLSDDLPAWSYSGS/GRPSTGLPI /PWPSWHP*RRQCSQR*QTQIPEISGSPCL SQPPLQRSVRTLRPPAPATA/PLVSKLSPP TKSLPSSDAMRPLSRAGP*RKQEDSAPQ DPEPPRNRGPGN
4121	12172	A	505	1	1140	
4122	12173	A	5050	207	251	
4123	12174	A	5051	335	419	TFDFPNWRSYFMSNWTSLPTLLSSWD\Y YRHVPLYPAKICIFSRDRVLPYWPG*SHD FTLFVSMITLTLQIYKMTKLDNYLETIYY
4124	12175	A	5052	68	399	WELLIYFSGHTCSNLSPLLSLFFFF*DS LAVSAPGVQ\WHDLCSLRPLPPRFKRFW CLSLLSGWD\YRHVP\QYPAKICIFSRDRV LPILAKASRNVSFLTNLMLGGFS
4125	12176	A	5053	2	322	AAAAFFFF*DGACSVTRLECSGTITAHCN FRHLGSSNFPASTSRVVEITGTCHHT*LIF VFLVETGFHHVGQAGLELLT*VIHPPQS TKVLGLQVVSHCTRPLSDF
4126	12177	A	5054	16	357	TITIGQNFFFFFLEMGCSCSVARLECSGVS AHCNLKLLGSSNLPSTST*VAGTTGVCA TIPSYFYNKISM*NQSLPMLPSLGLELLG LRPVFLPRPPKVLGITRHEPPHSALK
4127	12178	A	5055	2	346	LRWSL/DSVAQGGVQWHDGSLQPPPPG FKRLSGLSLMSSWDYRRPPRLANFLHF **RRSFTMLARMVLIS*PHDPPASASQSA GITGVSDHAQSQIFLKLQMTKSMGFKTK FLN
4128	12179	A	5056	3	401	FFFWRQSLTLVTQAGVQ*LDHGSLOPPL PGPKGFSLSPSSWDHKKHAPPHLANFF L*RHGFTM/RLVLTSLPQ/CDPPAAASQS AGITGVSHCAQPVIFCKKLDIFSSTDIPTPS NLQPRGFWDLTAPQGEIVST
4129	12180	A	5057	142	250	PPTGSLLTPLWDPQFASLFNGTL*WERE *PLQNV
4130	12181	A	5058	2	775	RCNSAQQQMTSSQKALMLELKSLOEEP VEGFRITLVEDSLYNWEVAIFGPPNTLY EGGYFKAHIKFPIDYPYSPPTFRFLTKM WHPNIYEEWEMYGISILHPPVDDPQSGE LPSEWNPTQQCEGLILLRC*SHWLNEP QHLSPQPMDSASVMFRKWERQ*REKTK EYGLKFIRETKFSAT*GPKAGKGWVGVEG SPTNPGREYCIKTEVPRNDEQVQSLLYD ELGMMTDIDDER*GRRKADAD/CYDDDEF WGMRKP
4131	12182	A	5059	1	571	ALGKAGYID/KYVTAMGIVAFVFFRSGK YNLDFRSRNDP/ARHI/TPEQLVALYKSI REKH*VFPD*GLVQRTLFLVFLVCLKN/ SFDCCDREVWKKFTANACLQEAGNDLT VNLRHIAEAVDENS CNFLQLTVD*ACK LIQSNW*GIMVSHYSLT*NTFIALVKHCT G*/INTGAPC*SEPLARYKELSF
4132	12183	A	506	1	2640	
4133	12184	A	5060	32	534	GRERPLSPYMETLYRVPFLVLECPNLK LKKPPWLHMPSAMTVYALVVVSYFLIT GGIYDVIVEPPSVGSMTEHGHQRPVAF LGLQSKMDNNGKGLCIQAS*FTMGGF RFS*ILDPIECTKYPKTSNDSFFCSIGISSV VLEFFPWARSNSMRNGNCPGLI

4134	12185	A	5061	1	328	FLKRQRFGLVAQAGL*WHNLGSLQPLPP GFK*FSCLSLSSWDYRHLPPHPNLLF LVETGFYHFGQAGLKLLTDSGDPALAS QSAGIIGVSHRAGPGLCTFSNHI
4135	12186	A	5062	2	687	GRVGFNVWRDRNDTNLIPNGSSITVNOQT NKRDYVSKYINYIFNDSVKAVYEEFRRG FYKMCDEDIKLFHPEELKDVMLGNTD YDWEINIEKNARYEPGYNSSHTIVMFW KAFHKLTLSEKKKFLVLTGTDRLOMK DLNNMKITFCCPESWNERDPIRALTC/YP VSLLPSPKYSYNGNS*KKRFKKPINNR GIWLTSLPCPNLILLLLLLLLLLLFLY FVLF
4136	12187	A	5063	1	525	ISHDAIAQESKRYWQNLNANVPGAQVLG NQIMPGLNMKIKFVCRPQCPEKRSKSE PDKNRKYCSAKARHSWTKDRRAMRV MSY*VRKKWMNIRPLPTKKQMPLOFDLC NHASGKKCQYVGNCFAHSPPEEREVWT YMKENGIQDMEQFYELWLKSQKNEKSE DIASQSNKEN
4137	12188	A	5064	735	1517	SYSYFFIQLCNHISGKKCQYVGNCFA HSPPEEREVWTYMKENGIQDMEQFYELW AQESKK*KK*RHRPVSPNKGKWEQIH MANRIMAGRLQWDFSLAGMCGGKTGN SEKQWQGHISSEKHKEKVHTEVTDQYC WQHRFPTGYFSICDRYMNGH/AAQEGNS CK/CLHMGNARTFMEWGRKGRLPLKV EASTKHKRDLHIGPKDNDFGKYSFLFK DLN*YAGFYGMIPNQSIDQKNLKCSEAH SRGAARFPACIGVYRSS
4138	12189	A	5065	237	381	LHQPTTQTLAFTSNLRGR*RSAALPDAL DSSKVSEMRFLKRRGVN
4139	12190	A	5066	1	876	
4140	12191	A	5067	1	78	
4141	12192	A	5068	155	417	
4142	12193	B	5069	40	411	MQVTGVRTDSGALNITHKLASSPHSKPF PIFQATFIFSDHIRCIAEQRLAKGRIPGKA HEDAENSCPPWTSQSSPPLKSWGLDSAP PPPLSTCLASATTGAGAAATPQCSAPCL HRWTRCQ*
4143	12194	A	507	1	714	
4144	12195	A	5070	1	987	
4145	12196	A	5071	111	2187	DERRVGAADMFGRSRSWVGGGHGKTS RNIHSLDHLKYLHVLTNTTVTEQNRN LLVETIRSITELIWGDQNDSSVDFDFLEK NMFVFFLNILRQKSGRYVCVQLLQTLNI LFENISHETSLYLLSNNYVNSIIVHKFDF SDEEIMAYYISFLKTLCLKLNHTVHFFY NEHTNDFALYTEAIKFFNHPESMVRIAV RTITLNVYKVDNQAMLHYIRDKTAVPYF SNLVWFIGSHVIELDDCVQTDDEHRNRG KLSDLVAEHLHLHYLNDILINCEFLND VLTDLNRLFLPLYVYSLENQDKVFLII HHAPLVNSLAEVILNGDLSEMYAKTEQD IQRSSVLPTLSSLWQGSLSLNQLQSGLH KCSSHLCGAQAADSVTGEIPAIRSLEW LISAGSKARTFFFLKMLIGFWEKVDCEY QRRQVLSTRLQEALPSNRLTDVAHVHSS CMLGFGSTAPRGSWIGDPAAVHLPLPGE LAEHLGSGGTTTGTKHQPAKPSIRCFIK PTETLERSLEMNKHKGKRRVQKRPNYK NVGEEDEEKGPTEDAQEDAERAKGTE GGSGIKTSGESEEIEMVIMERSKLSLA ASTSVQEQTNDDEEKSAATCSESTQWS RPFLLDMVYHALDSPDDYHALFVLCCL YAMSHNK/GKSPEKEGLSGTQSHPGKA GTFGKEGAERKRAQV

4146	12197	A	5072	2	2774	RNLLVETIRSITEILIWGDQNDSSVDFFL EKNMFVFFLNILRQKSGRYVCVQLLQTL NILFENISHETSLYYLLSNVNSIIVHKF DFSDEEIMAYYISFLKTLCLKNNHTVHF FYNEHTNDFALYTEAIKFFNHPESMVR VRTITLNVYKVS LDNQAMLHYIRDKTAV PYFSNLVWFIGSHVIELDDCVQDEHR NRGKLSDLVAEHLHLHYLNDILINCE LNDVLTDLHLNRLFLPLYVYSLEN
4147	12198	A	5073	2	1802	
4148	12199	A	5074	546	802	GQAGRARQVRSPSSALITLPPLA*QKH G/ISRWWVIGDENYGECSREHALEPR HLGGRAITKSFARIHGELESVPRSSHP
4149	12200	A	5075	3	2380	SLSVHKMAPYSLLVTRLQKALGVRQYH VASVLCQRAKVAMTHFEPNEYIHYDLLE KNINIVRKRLNRPLTLSEKIVYGHLDPA SQEIERGKSYLRLRPDRVAMQDATAQM AMLQFISSGLSKVAVPSTIHCDHLIEAQV GDEKDLRRAKDINQEVYNFLATAGDKY GVGFWSFGSGIIHQILENYAYPGVLLIGT DSHTPNGGGLGGICIGVGGADAVDVMA GIPWELKCPKVIGVKLTGSLSGWTS PKD VILKVAGILTVKGGTGAIVEYHGPVDS MSCTGMATICNMGAIEGATTSVFPYNHR MKKYLKSTGREDIANLADEFKDLVPDP GCHYDQLEINLSELKPHINGPFTPDLAH PVAEVGKVAEKEGWPLDIRVGLIGSCTN SSYEDMGRSAAVAKQALAHGLKCKSQF TITPGSEQIRATIERDGYRQILRDLGGIVL ANACGPCIGQWDRKDIKKGKNTIVTSY NRNFTGRNDANPETHAFVTSPEIVTALAI AGTLKFNPETNYLTGTDGKKFRLEAPDA DELPKGEFDPGQDQTYQHPPKSSGQHVD VSPTSQRLQLEPFDKWDGKDLEDLQILI KVKGKCTTDHISAA GPWLKFRGHLDNIS NNLLIGAINIENGKANSVGNVAVTQEFGP VPDTARYYKKGIRWVWIGDENYGECS SREHAALPRHLGGRANITKSFARDPRD EPGRKQGLLPFGPFADPADYNKIHPVD KLTIQGLKDFTPG/RSPKCIKHNGTQ ETILLNHTFNETQIEWFRAGSALQK*RN LQQ
4150	12201	A	5076	3	203	
4151	12202	A	5077	52	393	EASAWPAPRGSWMVVAEDPACSVTLCP ESLSGYLPGSGGQGPSPAAGTSPSPPPRS LPGLEKLRSPSGRESRLSSAPRAPSISAK AQLQCQAEEDPEIVNNV*FSSVTCLSL
4152	12203	C	5078	121	396	MALPGRPLPHRKLAGGTLEAPWPGIPSGA VRRHQPOPPTTLXXWLKGVKKPLRKRIE AKFLCAEGPEHIRQGSAAVPGGGGRSRN CEQCLI**
4153	12204	A	5079	3	755	FVVD FDRPHETRVLQVSCGRAHSLVLT REGVFSMGNNSYGQGRKVVENEIYSES HTVHRMHDFDQVDQVACGQDHSFLT DKGKVYSCGWADGQTGLGHYNITSSP TKLGGDLAGVNVIVATYGDCLAVSA DGDIFGWGNLEYLQLA/APVTDSTQVN VPRCLHFGVGKVRQ/CLHAVARAVQC* TGEHGVFVWGYGILGK/GPNLSGKCPSL KMIPPTLFGDFGQPRNPGFPAFRCGIQA TLLH
4154	12205	B	508	1	546	MKQPNRKRKLNMDSKERLDQDGRLVK MSFFVFCCVVSSESEHEETQDLMCSELF WVLLHMWSLDQQHQHLEDHNSSPAR GQHWMESEDELTEVGFRRWVITNSSSEL KEHALTQCKEAKNLEKRLDKLLTRIISLE KNINELMELKSTARELREAYTSINSQIDQ VEKGYQLKINLMK*

4155	12206	A	5082	7	279	GQVCIAETGVQWYHLSSLQPLPPGFKRF LCSASRRAPPCANF*FLVEMGFHHVG QAGLQLLTLGDPPTSASQSAGITGVSHH ALPAWL
4156	12207	A	5083	5164	5586	FTAALNSWVIKLSSCFSLSSWDCMYMP PCPASFFFFFLR*SFALVAQAGVQWCDL GSLPPPPSGFERFSCLGLPSSWDYRPP/P TPG*FFFFVFLVEMGFHYVGQAGLELLT SSDLPTSASQSAGITGVSHHALPSLYK
4157	12208	A	5084	2	5438	
4158	12209	A	5085	1	4294	WAVFDGNYYYLPAHTKPVVTLTSY WEDISHRLDAVNALLAMAERLQTNIEAL KSGIQGKIPANQLAELWLKLIDEVIEDTR YTLPLTEGKANVTVLDTQIRKLRSRSLSQ IHEAAVRMRSEATDVKSTLAEIEDWLDK LMQLTEEPQNSMPDIIWMIRGEKRLAY ARIPAHQVLYSTSGENASGKYCGKTQTI FLKYPQEKNNPKVPVELRVNIWGLLSA VEKKFNSFAEGTFTVFAEMYENQALMF GKWWG
4159	12210	A	5086	444	797	FHSLSPGASKPMLEPGLDWEPCCKLNDV KRAKSVPLTRHLH*VYLLMLSLPPPTPQ QAPVYDVPLPVSKCSHCQFPLWF*FAFL* WPVMMSVFSCVWLHKCLLRSVCSYP LPTF
4160	12211	A	5087	489	611	SPCPLCPEWYCLGFLGFLWFLV*HLSL *SILNYFLYKV
4161	12212	A	5088	1	336	
4162	12213	A	5089	1	1581	
4163	12214	A	509	1	732	
4164	12215	A	5090	235	583	
4165	12216	A	5091	1	430	MGKDFMTKTPKAMATKAKIDKWDVIKL KSFACTAKETTIRVNRQPTWEKFFATYSS DKGLISRIHKELTQIYKKKTNNPIKKWAK DMNRHFSKEDIYAANKHMEKCPSSLAIK EMQIKTTMRYHLMPPVRMAIJKSGKNR WELNNENTWTQEGEHHTLGPVVGWVK GGGKALGDTPNVNDELMAFSTTRPTFFP RSDPTTTRPMAVPPHEEKDDHLETHRPL RPRTTLPHAPDGRWLLTLTHTSTPGKT GLRTYRCLSRTEKVQTAGARPSHPHSS AAFTTWAKGPTGRRPGHMRSESATQKE VTMSPCTALRGQKADSKAHGQQGTWA ARGMHITESGTCKASRGFPSLLSPRTRIPK VFVAERKGLRGFVLSLTLFSCIQKHWE QTVPMSPLVEDVSE*TGNLQNGRNFLQP THLTGK*YPESTKNSHKFTRKKQTTPSKS GQRI*TDTSQKKTQMPTNTWKNAHHH WPSKKCKSKPQ*DTT*QLEWQSLKSQE KTGGN
4166	12217	A	5092	65	163	LEASKFSLVPTGPSV*CSPPCVHVFSLFNS HL
4167	12218	A	5093	175	495	PQFFGNVLGHLLYSFLGPFQCDENIRYLS *CSPSSCPPCTNRQYVMFSLCPCVLMV QLPPMSENMWCLVFCSCDSLRRMMVSS FIHVYPYFCYCNLVVYFEVRCH
4168	12219	A	5094	67	351	LHTRKSVFNCVKLFLHCISSVLINQLYDR PWCVMFPTLCPSVFIVQFPMSSENMWCL VFCPCDTLLRMMVSSFIHVPPERHKSCH HDTRG*CSNM
4169	12220	A	5095	2	431	QVFGSIVRIHQGEWFPLLYGILLPRVQNC LTN*LDLCWSQHQTTPHVLTHRWELNNE NTWTQEGEHHTLGPVVGWEGGGIALG DIPNVNDKLMGAAHQHDFLVSPKITGIV LSISQVRVPFIDHRRKARYSADLTSFLIAI PG
4170	12221	A	5096	75	173	

4171	12222	A	5097	1	2349	MLED RDGEDEGEDRLDNAVRGPGPK GPVGTVSEAQLARRLTKVKNRRMLSN KPQDFQVATAWRSASLFNLYIAHLLAIA VMFQWTSYNGQWLNRPALNDFIPTAAL GLYNPTVPILGMTLGGSTQLVAPGIAQS CPGLVLAILIGEGNEATPEDPKDPTCWER LGNHPPSVLQIRVRVIEGRQLSGNNIRPV VKVHVCGQTHRTRIKRGNNPFFDEV LW LQPGDHTPASYSRAGLNDYHNCCCKNM QGVLTHKWELNNENTWTQDGEHHTL GPVVGLWPQCLTDEPGFEETWASTQPF AGVTCKALYLLHFTPTAIGSHCLDHCFS DFLGKKNYRKEKVGLRDLGICRRPGEGR LGKHILRNVLGDDAEALIGTATVALKD LTGDQSRSLPYKLISLLNEKGQDTGIYNC ELENVAEFEGLTDFSDTFKLYRGKSDEN EDPSVVGEFKGKLQMWVDVFPKSLGPP GPPFNITPRKAKKYLRVWNTKDVILA EKSITGEEMSDIYVKGWIPGNEENKQKT DVHYRSLDGEKNFNWRFVFPFDYLP AE QLCIVAKKEHFWSIDQTEFRIPPRLIQIW VNDKFSLADDYLGFPRLTLRHTIHFLQ KSPGGNC/RGLDMISGTFKAMNPLKAKT AFLFEQKFMN*WWPCYAEKDGARVMA GKVENTLEILNEKEADERPAGKGRDEPN MNPKLDLPNRPETSFLWFTNPCKTMKF IVWRGFWWVIIIGLLFLLILLFVGRAPLT LLPNYFVQWKIVKPNVLTGKGGFISRVIQ Q
4172	12223	A	5098	1	296	RRSAPSTSLRTTCVSSCCWPRRRAPSMTP GAGYPSGSSAGP/PTHSP*PPWTRPS/SAQ RYLRK*QPQGPALLPLLPAP/PKAWLS GLGPVVLDSGPQ
4173	12224	A	5099	26	253	RWLSWPWL/SCPQPGWTARNPQPTRELPP HPQAGKPFPPVPVPFQPTSPSLLPVMGGL SRPGSFSPVSVASLRCTH
4174	12225	A	51	702	1107	LQERYSDPGLLASFHGESSQDRLDTVQQ EK*NAGSASPPGPPHNTCQPRDGRGFT RLPCHRMWGTPGIRWKMLPQ*AAAGPPH AA*WPGSLMPPCL*PSASAWTRQQ**PG SLPTLTSPG*DPGAHILLWRKQSY
4175	12226	A	510	2	1601	
4176	12227	A	5100	274	2462	RRSAPSTSLRTTCVSSCCWPRRRAPSMTP GAGYPSGSSAAHHRCDGWATTHSP*PP WTRPSWRSAYLRK*QPQPGTQHCCPLP SQPPAKGVAVRAGPCSAGLSRATIGTGQ G/PG/TSPGHTWGQRYHEATFWG*LLD CLVFKSEKPR*LILLITMF*STSVSLTML SLD*ARGRREPAHPTPGPSAATN*PGAL LPTVQIS*KCSSLQAPERASPPPCSPR/PPA TASFRPSLSDGPS/APSFGKPSHLKPNS NIFIFLPYQLLSHL*VAQSMATPCPQPGW TARNPQPTRELPPHPQAGKPLLFPVPFQ PTSPSLLPVMGGLSRPGSISLPSQWLL*G AVHAR*PVPFSILPRGTELTWTPSAKGPM GWAAGLAASGGCLHSSR*PTLVFRGW EHIPVPLPHNRCGDSPPGR*QGSSMVVR DSGEL*GLGDPGLPGFENKPCCF*AEIL KWNARLARNVLTQNA SPCPYWTWP CLMPKDPYPEAYPPYVLR EAECPLQAV MGPEAPPAWPCSPVG/SVTVPF/TSVSRSP PPKKLTHCE*PWAS/SPNLLVPQFPHLEK MGPPASSRAAHAPFSP/SPHPALGR LM PLPQWALWEPTGSPALTPPEASEACVMS QLSSR*GPRVLCWWGWGMP SFLYLFHR KSPAGAEMQSGGLPSP*PVLL*GPEAGP GPVAAEPSPQEVKLVP SGRLPVRGLSPSF QSNRRGLQSPVRQTGPFPVKVPCV



4177	12228	A	5101	1	545	DFPRQSS*NLNITGKCGISP/GTPLNA\AHF VPGQY/VDVTTKTMCKGFQGVMKRWG LKAQPAATHGQSKSTGRPGA\ATGDIGR VWPGTKMPGKWGNIYRQEYGLKVWRI NTKPPIN\YVKWSGPGP*KWLR*RSKDFK LPA\FKDLGKNLPIPIYIFFLEGDEGGTAQ KIGMDEKRVSSPGAPSN
4178	12229	A	5102	2	202	LFGYLPK*VDNMSTKKPCTWIFTLALCIT ARTWKQPRCPLVGKWI/QLCCI*KMKYY SDFKKSCQAMK
4179	12230	A	5103	1	422	FFFFLRSFTLVA*A*VQWRDLNSLQPP PPRFKRFSCLSLPSSWDYRRASPCSANFL DF/HFLVETRFHHVCQAGLELLMSGDLP ASASQSAGIIGVSHCARPLASFLIHIFNK CISGVRLCSRWPWRYSAQAQSLDLAY
4180	12231	A	5104	2	375	DGSCFVAQTGVQVWHNLGSLQLPPLPRFK* FSCLSLPSSWDLRQVPPHPANF*FLV*P GFHDVGQAGLELLTSGDPPLATRSVGIT GVSHCARPGSIYKQRLDKKLRSVAART NRCPLWSLPI
4181	12232	A	5105	1	293	RRLFFSFLRQSLVLVIQAGVQWGDLSL RPLPAGFKRFSCLSLPSG*DYRHGPPRLA NFWIFTREGM/FAMLARLVSNS*PQGDPP ASASQSSGDYRA
4182	12233	A	5106	3	305	ETETCSVAQAGVQWPILSSLQPLPRLKR FSCLSLNSWDYRCLPPHAANF*FLVET GFPHVGQSGKLKLTSGDLPTSGSQAAGIT GVSHCTWAGSYIF
4183	12234	A	5107	1	485	ARRDAAEVFLVSDPSGRMVKFSLQRIIN SHCFAREKEGDKPSATIHASRTMPLLSLH SRGGSSE/SDRLNVTEELTSNDKTRIL NVQSRLTDAKRINWRTVLSGGSLEYIEIPG GALPEGSKDSFAVLLEFAEEQLRADHVFI CFHKNREDRAALLRTFSFL
4184	12235	A	5108	1	506	FGVSVYLHDYNMRTNPGEMSESTVPTH PADKGWPQGPDAQPRGGPTPPPLPKTSL RTCRPMKQASGLLGTGCPGLTISKPKK LKVRSKAAAGEKPSEPLPTRTPRPHPPP QGDRACGLRMKGRRRHPHAPYCRRYGS PTSVLAVLVEANEDMVGSQLLLSELEN WQAVLAPLGQRAARDLDVEAAATQHCS PNWRTVLSGGSLEYIEIPGGALPEGSKDS LPVLEFAEEQLRADHVFIHFHKNREDR GR*PVSPA VGC VGPAPPLHSQAGTVS LRGWGV RAGGSGRQGF*RLLPRAALLR TFSFLGFEIVRPGHPLVPKRPDACFMAY TFERESSGEEEE
4185	12236	A	5109	1	996	MVKSSLQRIINSHCFAREKEGDKPSATIH ASRTMPLLSLHSGGSSESESVWMARD APGEAAH/CRRHPG/PSRPGPGSWGWR TPTARQRPKTPAASREDASFRGRGCQ LRLWGS/HAGSRSSPDCVPRGRRSAP DREDDRLNVNRGN*RSNRQDGGFFNVQ\ SRLATEAQTALNWRNNC*SGGSFLNIKPA GRRWPPEGSKGQLLQFLLEFAE/EKQLR ADHVFIKSHKNRE\DRSCLAPKLSAFLG LKILRPGHPLVPKETPDACFMALQRSRE SLPGEEEEVGARLRGWAIPPPWGHFVS RVGRNRRLAHLAWVCPHVIVQINAH S
4186	12237	A	511	1374	2220	QAENSHININKKDVHSETPSEGHQRKRP KDHSSSPAREQNWMEFDELTEVGFR RWVITNSSELKKHVLTOCKEAKNLEKRL GELLTRITSLEKNINDLMELKNTARELHE AYTSINSWINQAEERLSEIEDQLNEIKRE DKITEKMKNSTTVLVSTWGSQLEQNNLP HIISPLFHSTHDLNISFYGGCLLQACSSKL LQGLAEGGPLRLTRSASFPAKLCCLKH FLPTEMLIKSRKTPDTPRRLYLLQGV

						VDQTSRKGPTALNIRQKTFAAAPPHR
4187	12238	A	5110	1	125	FFFEMESHSVIRLECSGVNSAYCNL/TLP GSSGSPASAPPPQVGTTGTHHHAQLIFV FLVETGFHHVGQDGLDLL/NLVIRPPQPP KVLG*QAVLLPQHRPPK
4188	12239	A	5111	2	280	FFFFGDRVPLHSAQAQGVKWCNLGSLQ PPAP/GLKPFSCSLPSS*DYRSLPPCPTHF CIFSRDEVSPSWPGWSPTDLMNHPPRPP KVLGIQV
4189	12240	A	5112	2	291	FLEMESHVAQAGVQWRDLGSLQPPPP GFKRFSCLSFPSSWDYRRPQPRPA/NFFV FLVETGFVILARLVSNS*PRDPPASASQS AGITGVTYRARP
4190	12241	A	5113	3	690	FFFFFLRQSL/DSVTQAEVQW/RRILGSLR P/LQLPGLK*CCCLSLSS*DYSYNPLPRL ANFF/VFCIF**RRGFTMLARLLSNS*PCD LPTSASQSAGITGVSH/HAPGLASPSLNN KVQSSVGAQRRHDEDNGSRA*VFCCFF FKRFALVA*AGVQWRDLSSLQPLPLRFM *FSCSLPSS*DHRCPVPPHANFFVFI*RD. GVSPCQPG*SRSPDLAIRPPRPPKVLGLQ A
4191	12242	A	5114	3	282	FFFETESHILSPRLECNGTISAHCNLRL PGPRDCPASAS*VAGITGVCHHAWLIFVF LVETGFHHVGQAGLELL/NLVIRLPQPPK VLGLQA
4192	12243	A	5115	3	198	LSLNWCILYIYICIYVV/CVVLFCHSCLS NMGT*FFLAGLLFRICLCIFIFYLL***L LFIMI
4193	12244	A	5116	1	854	MNKLFSILLGEKVDTPQPNVLHNDPHARH SDDNQGNHLEGQMNFNADSSQFKDENT DIAEKLEEKVRILCWVMTGPQWLEKKA KHVKATWAQRCNKVLFMSSEENKDFPA VGLKTKEGRDQLYWKTIFAQYVHEHY L*DADWFLKADDDTYVILDNLRWLLSK YDPEEPIYFGRRFKPYVKQGYMSGGAG YVLTREPLKRFVDALKTVKCTHSSSIED LALGRCMEIMNVEAGDSRDTIGKGNFFH PFVPEWHFNLKGYLPRTFWYWNYY P/PVEGPGLLL
4194	12245	A	5117	13	290	ECRRQRGVQ*CNHS*QQL*PPGLMQSSL LSSPGSSDYRQVLLHSAEF*VFNLVEMG SYYVVQAGLKFLASSDPPALTSQWARIT GMSHITRA
4195	12246	A	5118	1	595	MGIHHVGQASLELLTSGDLPASASQGRG VRLYYINEGRSSQSASVTALFLSSLPTVTS AMAGTRPPSARSHQTLQACRAQKTKTR MSSI*GTGAKHQASSPGKAPLSTPSPYFW KPSLQTPCSGSRSLWASLPSPLAALFLC FWQDAT*RSSTTRSSLPSWPSRSTRALRL STS*PECAPSA*ASSKAGERSTGDRL
4196	12247	A	5119	3	496	FFFLRCSV/NSTAKAGVQCHNLSSLPLP PGFKQFPCFSLPSS*DYGCAPPHANFYIP SRISQAWWRVPVIPATQEARQSFNVAQ VGVQWHNLSSPQAFPAFGK*FSCSLPTS WDYRHMPPCPDNFCIFSRGGVSPYWPS WSRTLDIMIHIPRPPNVLGLQA

4197	12248	B	512	1	765	MLAGQOREFPVGVGSADPALGAAGWP QRPQARDLQLAMPEPPISMGSCAAGA SPTSTAPCSKAPSPIDHPRAAECRRRARD WQAAPPAAPVRDPLGEASRAPESVKDV CIYDIMFDGGAGRFAAATLGTISELPAPF EERKSWKPKRQAPGALV*
4198	12249	A	5120	3	329	ETVSHSVAQAGVHWHHVGSQQPPSPGS KQFSNLSLPGGWYRHPHPANFIFLV ETGSHYVAKADLQLLASNDPPTSASQHA GIIGRSHCTRPRYI*WSNKL*YKIT
4199	12250	A	5121	1	537	ERQSCSVARAGVQWHDLGSPQP/LPPRL KRFS\CLNLLSSWDYRRALPHPG*FLYP* *RQGFTMLVRL/VLNS*PCDPPTSASQSA GITGVSHRARPVLR*QNYYYFETGSGS AAQAGMQWPIAMAMQOPPPRLKQASNL SLLSSWDHGMQPHANTTVCKTERKQV FRMHLLNNTNYREQ
4200	12251	A	5122	1	197	EAGSHSVAHAGEQWCDYGSLOHQPVV LKQFSHLSLPSS*DYRCVPPCANFLILM ISVSIRGSV
4201	12252	A	5123	809	1472	KTLLSCYLSKLWPVDYLRSSRLRRRAA SSFSGSWRFALQRTPHTRRLSRSSKAVQ TAFPRRSPSSRHRCGSSSRATTTCRMFL SSLTTCAQQLAGWVTLKRSIGLRKRSMS LMALKKWPCLMWKKRRSLPRYPQQRRT RGKKRSGSKIMIRRLNGQMGPRTVPAPA MKEVQI/TKLKKSKRRSCSHCSSKVCDS KS/VQEQGAP*VGGQQPPPRG*SYAWC
4202	12253	A	5124	1	504	DSEPCSVAQAGEQ*RDLSLQPLSLGLK QFSCCLPSSRDYRRPPCLANFCYF*YR WGFTTSARPV*NSWPCDPPTSASQSAGT TGVSHQARLLLFFKAFKVWSGDSI*CVN EFNIISKISSFPHFTSTPQSCPMHSSQIKY K*F*DY*CSKQAGGISIDTY
4203	12254	A	5125	2	351	KQGIIMTYVLRPPFFSRWSL/DSVSQAG VQWRVFGSLQAPPPGFLPFSGTG/RQPPS PANFFLYFLVETGFLF**RQGFTVLDRMV SIS*PRDPPALASQSAGITGVSPRTREQH S
4204	12255	A	5126	1	1047	MVSISWPRDLPASASQSAGITGLIGALVL SVGIYAEVER/HEI*NP*KCLPGSSHHHP PGRRHVHGLLHWACAGVPP*QPELLASL RLSRGYGLVLSWLEPRYEKMISGMYLG EIVRNILIDFTKKGFLFRGQISETLKTGIF ETKFLSQIESDRLALLQVRAILQQLGLNS TCDDSVLVKTVCGVVSRRAAQLCGAGM AAVVDKIRENRGLDRLNVTVGVDGTLTY KLHPHFSRIMHQTVKELSPKCNVSFLLSE DGSGKGAALITAVGVRLRTEASS
4205	12256	A	5127	116	498	YNFALKSELKFNQAIIVSLNKFFFFFLR WSLRPVAQAGVQWRDLGSLQPPPPGLT PSSCLSLPSSWNRPPPCPAKSFWM* RRGFTVLARMVVIS*PRDLPASASQSAGI TGVSHRTRQEGHS
4206	12257	A	5128	3	490	GIYHTLRTGQEGRSGIKQQRLLQRPLPYF FLFIFPSFLYMIEIKH*LSFYILLFAFNIVS* PFSYFIFFF/RF*DSVLLCGPGWSTVA*S*L TAASTSDQDQDSPTSGPLKVTDRCVGH T*ANFYIFCGGWGGLTILLRRIPNSWAQG IFPPWPPKVLGLQA
4207	12258	A	5129	423	495	
4208	12259	A	513	594	1300	LGASEPWQPRSQETPKHSWPSHP/PANQS KEVPENPNYALKCTLVGHTEAVSSVKFS PN/CENGLASSADRLIIHWGAYDGKYEK TLYGHNLEISDVAWSSDSSRLVSASDDK TLKLWDVRSKGCLKTLKGHSNYVFCCN FNPPSNLIISGSFDETVKIWEVKTKCLK TLAHSDPVSAVHFNCSGSLIVSGSYDGL CBIWDAASGOCITLVDDNDDVSEVKE

						CRIWDAASGQCLKTLVDDDNPPVSFVKF SPNGKYILTAT
4209	12260	C	5130	628	849	MCGSVYSTIWSLIASRREETIRVIVLYIQS PNINTRHISKRGLNKGVNQFHKEDWNLL KRVCSHSGAEAGIFS*
4210	12261	A	5131	350	412	NFELKLSPYQKKSIVWGAAQVMPVAVG KPSSEWPPGSHMDNSQIRGNPVCIGK*FS CPSLQCSWDYRCMTPCLANLFFFKLEGG FCHVAQTSKLLGSSSPFILASRSTGITG MNHHA\RQLLN*SIRE*HSITHRLTHSRE KSCECNLYGKTLSSNFPPTKKKVSTGELP R
4211	12262	A	5132	3	189	HERKAQPAGEGRTHMTKSDSLPSFRVST LPLESHHPDPNTMGGASHRDRALSGTAT VRDTRGIDPAPVHASPTRNRNEGRHVF KRFPD\TLDRSISIYTDHHS\QIRTLRALS QL*TTPTQTPWAGPATGTGLSRGLPPYG TPEG
4212	12263	A	5133	32	800	FKTIKVRFLCIRVYSLCCKLLTYCDHFH SLDFEECAHKLLKMEFPESQTKELCNMI LDCCAQQRTEYKFFGLLAGRFCMLKKE YMESFEGIFKEQYDTHRLETNKLNRVA KMFAHLLYTDSL\PSWVLECIK\SEETTS SSR\VFVKIFFQELCEYMGLF*/SLIARLKD GNLAPFF*RJ\FPRDDPRITRVANSFFPSIA SGCLTYCPVSALSSIPRLPLVVALLLPIPIF HHD\LELFRLPFFYND\TLVLPFV
4213	12264	A	5134	2	706	RCNSAQQMTSSQKALMLELKSLOEEP VEGFRITLVDES\LYNWEVAIFGPPNTLY EGGYFKAHIKFPIDYPYSPPY\TRFLTKM WHPNIYENG\DV\CSILHPPVDDPQSG\EL PSERWNPTQQCEGLILLRC*SHWLN\EPQ HLSQPMSDASVMFRKWR\DSKGK\DE YGLKFIRETKFSATKARRQEKGG*RF TTLGNTCIKTEVP\RNDEQVQSLLYDEL GMMTDIDDER*GRRKDAD\CYDD\DDSG E*GSPQPWAGIPASKLRPCNDEQVQSL LYDELGMMTDIDDER
4214	12265	A	5135	7	219	EGV*VSRDW*QWS\DIGSWRHSMTGSGD SLASAF*VSGGTGESHHKQLIAVNMVEM GSHRAGQAGNELSTL
4215	12266	A	5136	2	309	DGVSLLLSPRLQWHNLGLLQPPPP*FKGF SCLSLPGSWDYRHV\PPCLANFVFLVETG FRHVGQTGLELLTSGDPPASASQRAGIT GVSHRTWQKMYFLSQKYF
4216	12267	A	5137	1	309	SCLSLSSWDHRRVPAHPANFVFLVETG FHHVSQV\GLELLTSSNPPASASHSAGIT GVNHRAWLPGLNLR*FKMIIRRLRLLK NKFHSTILRKSETSNSCE
4217	12268	A	5138	2	625	TYGEMAKIVDVPTKQLRAPDPIDSMCH FCHNVSPCTRNGCVDMEHFVKIKTHQI EDERERREKKLYFGYSLGAHPILNQITIG RMQRATEGRKEELFALYSAHDVTLSPVL SALGLSEARFPRFAARLIFELWQDREKPS *TFVRL\YNGVDVTFHTSFCQDHHKRSS KPMFPLENLVRFV\KRD\MF\LAGG\SCTN YYDACHREGF
4218	12269	A	5139	167	688	
4219	12270	A	514	188	478	QRGVLLKTANVLVPEDLGREMRIFFSVK TWKTFTCIFTKGTNIHLFLFYFFETASLS EAQAGAQLGSLQPPPPGGSSDPPASASPI AGITGACHH

4220	12271	A	5140	3	1230	QRDSYAREFTTTVVSCCSAELQT/GEGAT ARNIFLSGFQVVLEDTVLFPEGGGQDD RGTINDISVLRVTRRGEQADHFTQPLDP GSQVLVRVDWERRFDHMQQHSQHLIT VAVADHLFKLETTSWEVGRFRSAIELDTP SMTAEQVAAIEQSVNEKIRDRLPVNVRE LSLDDPEVEQVSGRGLPDDHAGPIRVVN IEGVDSNMCCGTHVSNLSDLQVV*VLGT EKGKKNRTNLIFLSGNRVLKWERSHG TEKALTGLKCGAEDHVEAVKKLQNST KILQKNNLKSQAQ/RT*AVHIAHSLKEQSR LGRCGHITQEGG*FRVHEYHCQ*RLGQR RPSLFLTCCR*ERWWTLLYWQGHRLW RPWGPGLRSWEGKGACKKGRFQGKA TKLSRRMEAQALSPGLHQHAEC
4221	12272	A	5141	3	306	SRQWTLFADGQHSGPAAPCPCGEV*RTG ALNPKTFFQG/LPSAPGPCPVPHGASHP*T PQKLQPGNKSQMKPVKPGFPPSGAGGA WASL*PSSLPPFDLQYLL
4222	12273	A	5142	1	306	FFFFFL*QSCSVAQAGVQWYDPSQKP PPPRFERFSCNLNLPSS*DYRRPPSLPAUFV FLVETGFHHIGQDSLKLLASSDLPISASQS AGITGMSHCTWPV
4223	12274	A	5143	81	657	TAEKGGEETKSGELGRSQRTLSQVGATR GTSEEITLIVQMRDAGGSALCSGIGGGEK WSVLGVILKKDDRIVLAYCMGHEIKRGI EDDSKVFFFFFLEMKSCSVVQAGVQWH DLSSLQPALPRYK*FCSLSLPGSWDYRH VLLRLVNF*FLVEIGFHHVVQAGLKLTT SSDLPHSASRSAGITGVSHRARP
4224	12275	A	5144	3	494	ETEDLALSPQAGVHVAR/SLSSLQPPPPG VFKQILCLSLSSWDYRG/PCHPHAKFL AF*VETGVSPSWAR/LFLNS*PRDPPASAS QSAGEPPRWASVCNSVKMLSSAFNWCV CRLHKEKWMRRQKTHTVMIPHSNRCSS RHFSRIPSSIETYNLRLHTLLAGRF
4225	12276	A	5145	3	123	ESGSHSLPKL*CSGAITAHCNLKLGSR DPPTSASGVAGT
4226	12277	A	5146	3	292	RQRLNSVTHSGVQWRNPGSLQLPPPGF KHFSCLSLSSWDYRHTPQCPAUFVFLV ETGFRHARLVSN*PHNLPVSASQ/SAWI TGLSHHARPCVSF
4227	12278	A	5147	2	303	FLGWSFTLVVQAGVQWRDLGSPHPLPP GFKQFFCLSLPSS*DYRHAPPHLANFVFL GEMDFLHAWQAGLELLTSGDPPTLASQ SAGITGVRHCSRPFVSE
4228	12279	A	5148	2	613	PRVRTYRFGSVGHDTQLCLWDLTEDILF PHQPLSRARTHNTVMNATSPAGSNGNS VTPGNSVPPPLPRSNLPHSAVSNAGSK SSVMDGAIASGVSKFATLSLHDKRKEKAP RERSQSRNHSNGHNF*QEASDKLESS/SP KPKPDPAKTLGTPLCPRMEDVPLEPLIC KKIAHERLTVLIFLEDICIVTACQEGFICT WGRPG
4229	12280	A	5149	2	393	IGFQPQLTEFQVSLQDLEKLSGLVFFPHL DRTSDIRNICSVDTCLLDFQEFLLYST RKIEGARSVLRDLKIMDHLKNV*NEPYD YPMRRYYKKLQELTAIDLSTHISQPSLL SYTTCLISGATPPFT
4230	12281	A	515	355	612	SFSISGFSASIALVCQLLAVKGSVFEVG GISYCPLNVFLDLQVAPEEDERKKRRR ERNKIAAAKCRNKKKEKTECLQKVSFAF
4231	12282	A	5150	644	962	NASSLAWTVLLKLLVGFGAGQCMGNFF FCWGGAMESPSVAQAGVQWRNLGSLQ PPPPGFKRFSCLSPSSWDYRHPVPPHAN FACIFSRDGVSRCPGWS*TPDLR

4232	12283	A	5151	3	321	RRCLCAGYFKNVARRSCWRTFCTMDGR GSPVHHHPSSALHEQETKLEWIFHEVLV TTKVYARIVCPIRYEWWRDLLPKLHEFN AHGFEQCGPT*SERRCKKEMDK
4233	12284	A	5152	237	602	LLITGRQYSLTFRFYIHLRNKILNSGLG KPPLKLHFYTEAFFARNPDQMEFHSVAQ AGVQWHDLG*LQPLPAGFKQFFCLRFLS SWDYK\GTPPCLAGFCIFSRDEVSPRWG WS*TPDLK
4234	12285	C	5153	166	417	
4235	12286	A	5154	282	1112	FLKRENLLKNVCRNKLDLRPNRASPTGS QEWQRHGVQSEVQFVHSLKPGPPADS CRTAA/GDPGGTETADPGHTGLELRFPEP PKPTLPLALSEAPVP/PERGENTGPRSLPS TPMPSWGPLLSSPPRPATSPSPQAN*PP PPRPSSHPTTVPPTRPQWQPGCCAQPP RPCLH*RGGN*VY*GMQLHQKSVSWPH SQWPQKREGNGSSHEIHPSCPPSGFHGPS PEGRMPTQAGALHSWVPGLSLSHSGSP HPPPRWTATVQAARPRVPLTNL
4236	12287	A	5155	69	734	SRLGRDHVGPGLGGVG/VRR/RENDIGEY EGGRNEAGERHGRGRARLPNGDTYEGS YEFGRKHGQGIYKFKNGARYIGEYVRN KKHGGQGTFIYPDGSRYEGEWANDLRHG HGVYYYINNDTYTGEWFAHQRHGQGTY LYAETGSKYVGTWVNGQQEGTAEIHL NHRYYQGKFLNKNPVGPAKVCI*CWV*T TW*ISFNRYGKRRRGRGRISNCCSKME SYPNH
4237	12288	A	5156	4	674	GVQRGHFQEAKGSGRCLSSLNVPHPSP SAGMDPSSPVPNPPEAGGPLAQVPSAAL AQVAPGPVPISSLLEGTPTSLPF*ERGNSS HKQASGPERGARPPALLGPQEIGSSK/Y PPPGPGSTLGKGLLASPRCGPPQVLGWG LRDPTRLEEGPWGSL/GNTPREPSIKCSP* MGRMGAQPLPKAEGAPPPTQLPPTHSR RILGPLGASPERPPPRVVPGGEG
4238	12289	A	5157	3	342	NFFFLRQSF/NSVTQAGVQWRDLGSLQ LPSGFTPFSCLSLLSSWDYRHPPHPANF LYF**RRGFTLLARMVLIS*PHDPPTSASQ SAGITGVSHGAWPKSIFFLNAEVMLEY
4239	12290	A	5158	1	251	VCVCGFCFVLETESRSVTQAGLQRHHL SLQPPPPGFKGFSCLSLPSSWDYRCP LANF*FLVEMGFHHVGQAGLKLVA PPASVSQSAEMTGVSHHALPG*SRVTQ AGLQRHHLCSLQPPPPGFKGFSCLSLP WDYRCPPLANFCIFSRDGVSPRWSGW SQTRGLK
4240	12291	C	5159	24	362	MGITVFRXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXS*
4241	12292	A	516	3	853	SQARTACLSSLAARAHP SARAPAVSPR CSPAGQTNSPPDPVPTLAAPSGAWSKM MLQHFGQVSASEVSASAIVCLSPPGSLV FEDFANLTPFVKEELRFAIQNKHLCHRM SSALESVTVSDRPLGVSITKA EVAPEEDE RKK\RRRERNKIAAAKCRNKKKEKTEC LQLQY*QSHRPPLWHHQGFSEEEGLHFP KPSAALPSIFLSQLDEPRCV\QSEKLES VNAELKAQIEELKNEKQHLYMLNLHPR TCIVRAQNGRTPEDERNLFIQIQKEGTLQ S
4242	12293	A	5160	1	287	FFFF*DIRVSAQSPRLECSGAILAHCNLCL PGSSDSCASTSPVAGITGMCHHTQLIFFV FLVETGVHHVG RAGLELRLQVHPPQP PKVLGLQA

4243	12294	A	5161	1	1672	QTGLQATTKHSGFPVRMDNAVPIVPQAP AAQPLQIQSGVLTQGSCTPLMVATLHPQ VATITPQYAVPFTLSAAGRPAIVEQDC RCTAGVAWKGLKQILLPSNFGQQLAWG *ALHNSVQPTAMIEAMSGGQQLADWR NAHSHGNQYSTIMQQPSLLTNHVTLATA QPLNVGVAVHVRQQQSSSLPSKRNKIQS APVSSKSSLDVLPQVYSLVGSSPLRTTS SYNSLVVPVQDQHQPPIPDTPSPVSVITI RSDTDEEEDNKYKPSSSLKPRSNVISYV TVNDSPDSDSSLSPPYSTDTLSALRGNSG SVLEGPGRVVADGTGTRTIVPLKTQLG DCTVATQASGLLSNKTCPVASVSGQSSG CCITPTGYRAQRGGTAAQPLNLSQNNQ SSAAPTQERSNPAPRRQAFVAPLSQA PYTFQHGSPHSTGHPHLAPAPAHLPSPQ AHLYTYAAPTSAALGSTSSIAHLFSPQG SSRHAAAYTTHPSTLVHQVPVSVGPSLL TSASVAPAQYQQQVATQSYIGSFRGST IYTGYPSPKISQCYL
4244	12295	A	5162	1	111	ELRYKRWPGWKADTPQAQTVKWVGV GKSRESMIQLF
4245	12296	A	5163	2	1034	DRAHLVDFHQAQVDGLQEVQQAQEGK NIGTTKKGIGPTYSSKAARTGLRICDLLS DFDEFSSRFKNLAHQHQSMPFTLEIDIEG QLKRLKGFAERIRPMVRDGVYFMYEAL HGPPKKILVEGANAALLDIDFGTYPFVTS SNCTVGGVCTGLGIPPQNGDVYGVVKA YTTRVGIGAFPTQINEIGLLQTRGHEW GVTTGRKRRCGWLGSMILRYAHMVNG FTALALTKLDILVLDVGEVKGVSYSKLN GKIRIPYFPG*PGRCFKKGRKLKYETLPG WKVADTTGRPGRWEDLPPQAQTYIRFVE NHVGSRSYHYQSFLVSVKWVGVGQ VQESPMIQLF
4246	12297	A	5164	3	148	LLSSRDHRHVPPHPANFFCRD/RGLAMLP RLALNSWA*AIHPPWPPKVL
4247	12298	A	5165	3	325	YVFSGDLAHQILNVSLGIRRLHADVSV GICLAKLRIAPVPPHNSVFNWRCPYS SCSYVHLITSHQFQPSSELIKYNHLOHN KHNAACANAA*EKAGMYRHRRLH
4248	12299	A	5166	373	950	SRGVFFFLRQSFTLVA*AGVQWCDLGS QPLPPRFKQFSCPASLVSWDYRHAPHP ANFFIFLVEDKGFSMLVRLGLELPTSGDL PASASQSPGITGVSHHARP*MILFIFMFSF GRRDGVSVTQAGVQWHDLSLQASPSG FMPFSCSLSPSSWDYRHV*PCQANFLYF* *ANLSRVSPCWGWSRTPNLK
4249	12300	A	5167	2	334	VRHRTLVLPQAGVQ*CSLG*QOSPPWF KQFSCSLSPRSWDYRHLPPHPANFFVF/ EKTGFHHVGGAGLELLTSVDPASASQS AGLTGLSHHAQLSFNLSAKKSFTKTRS
4250	12301	A	5168	35	437	
4251	12302	A	5169	1	1845	
4252	12303	A	5170	1	212	
4253	12304	A	5171	371	915	
4254	12305	A	5172	1	2460	
4255	12306	A	5173	1	933	LESMIGIDPGNRGIGHLLCKDELLKASLS LSHARSVLITTFPHTFNHEPPEETDGP GAVALVAFLQALGRRSP*SLTREPVLH QKIVEDALSKVF*RRRSRY*LTVDQW KLLRHSCAKIGDPQTLRFDLVAIERAG RAADGNYYNARKMEHQAL/RLTPFDDL FLASAKKIPGISSIGVGDGNGELGMKV EA/DEEAHTARGCHRLATWKAFAVIAG VSNWGGYALACALYILYSCAVHSQYLR KAVGPSRAPGRFRPGLRPSRRSLRKKKC

						WASWCSTKSGVASRASWAWRWMGCPS TTPTPR
4256	12307	A	5177	1	439	
4257	12308	A	5178	1	552	GNEFSILKSPGSSVFRNGNWPIPERIPD VAALSMGFSVKEDLSWPGLAVGNLFHR PRGYPSWVMVKGSGTKLALTPQAVVIS YPLENRVYMVGKANSVFEDLSVTLRQ LRNRLFQENSVLSSLPLNSLSRNNEVDLL FLSELQVLHDISSLLSRHKHLAKDHSPDL YSLELAGLDEIGKRY
4258	12309	A	5179	3	1111	ILKSPGSSVFRNGNWPIPRERDPPDVA ALSHGLPL*KKDLSWPGLAVGNLFHRP RATVMVNVNGVKNKLDLPPGSGISYPL ENAVPFLDSVANSUHSLSFSEETPVVLQ LAPSEERVYV/VKGRANSVFEDLSVTLR HSRNRLVFKKTLFLSFTPPQILLSRNNEV DLLFLSELQVLHDISSLPSRPKHLVARDH SPDLYFTGSWAGLDEIGKALLGEDSEQ FRDASKILVDALQKFADHDHVPFVMVGN PVVELVHCPSHLNTSPPLGKTRDLPLRPK QAQEPQQVPYNLA/YKYNYFEYSVVFNM VLWIMIALALAVIITSYNIWNMDPGYD SIYRMTNQKISEWIECYLWPRIKRGFG NWLFC
4259	12310	C	518	512	739	MAEHHWAFPIPSXASXGFAXLQPTKATL KKXEGFKXFKKKKKKKKTPEGGAXGTX IXXPXGGAGXNKXPXGXXXG*
4260	12311	A	5180	18	594	NVAGTAICSFAPGRRQTPCHTREPQDGR PRARLTAWTRARGTCRVAHTHTGRQNH PMPLWGFSRHHRAFSEHLSLGCAPPSAT WT*TRSPAAAAAGP/PVPRKPNPSPPSRS PAGLRPPGRAGPLTSPRCGPPASQASDT VGPVRHKQRGPTSDVSGAWDGPATAAS GPVVRLYPSTLGGGRGRQITRSADKT
4261	12312	A	5181	68	446	RLTSELAQTLAVHPSKSARPRP*AGEKP GKKPPLQVNGAWD**PRVGADPGHSPD SLDPSTAGDVQGGSSYSYWEGRITIMPLW GFPDRAGLLGSPGSSGPGKRRPILAGQPY KLELQARFLGPGH
4262	12313	A	5182	2	512	APPSATWT*TRSPAAAAAGP/PVPRKPNP SPPSRSPAGLRPPGRAGPLTSPRCGPPAS PGIGHCGCRQTQAAWPRRTYQGRGMG PRPRPRRPVVPVGGERSHSHPSGPPLRSP GPEWGLTSSSCPARG/PGGCLCPQNQLPN PGP/SGPASPNNLSPRLHPTDTSGBPFPRA



4263	12314	A	5183	14	720	RNFPDRPTRPRTRGRTRGRTRVTFGPG PVASAGCSRGDGRFGEAGPTALDSGADS GVRDTLPVHEPGSCLRYRTPRPRSRRAH PTPLIRPTSGPRCFGSDGTHSVRCPVNAG RPGHLGLGG/AKSSGFAGQKGRLLAAG TCGVHVQGPLRAARPQEVLFQGGPLQP AAPEQPPATGAWLQPRLCSEKAL*LP* GAP/SQSPPRPMQIPITVPASG*NAGGPGA SGGTRVPG*KLPDTGGP/SAQHPLSPTGL PHDARP/PSSCPTGRSCVHCPQLNAVHL* E*PANSELSRPLESDTGP*AAPTRPGSAG PISDPHSVPPSSPSSSGTPALPGHMSS/GG KWYQHQPASACPVLGL/PPDPGAEKAGSQ PSPGHLVQAPGHPGPPGHTPAVTPSPFN SRAALPSFSR*PCQSPKPKQSGCDPRPR KPKPWKFQGS*GLPLQKNRPPFSPRTG ATPGEPPGAL/PLSGNPPKSHRDGSALPS MSMSHPARPSVLGSKLSGFLPSSWPGPC TF*WMKCGRTRSIRGHSCAWLKA
4264	12315	A	5184	2	1558	RRSRDSGYRAPPASHSRPGQAARAFAPR PARREVCCPRPGVPRRARTTRKTPTWAA VATGTRGASAEGGPTGLAHG/SLAAAA GLMGCEPASGWGPGRQSGGARTAAAGS SGSSSGSGPSAPTSSSVLGSLVAPVSPY KPGQTVFPLPPAGMTYPGSLAGAYAGYP PQFLPHGVALDPTKPGSLVGAQLAAAA AGSLGCSKPAGSSPLAGASPPSVMTASL CRDPYCLSYHCASHLAGAAAASASCAH DPAAAAAALKSGYPLVYPTHPLHGVHSS LTAAAAAGATPPSLAGHPLYPYGFMLPN DPLPTSATGCRPTGRATSASPRKSC*AT /SRHTAFPGTDKLLSGYPSSSLASAAA AAMACHMHIPTSGATGQPWDAGAAQPP PRGWDSAAATTPTPRA/ALPTPGAPVPVP AATGPYYSPYALYGQRLTTASAAGVSV RGGREGERGIGRKRGRGGVQGEAASRT RLLTARGEGLGPRKERNVLPYISYPTAA TETRWDTPLLPTFTSHTQTL
4265	12316	A	5185	6	56	VVAWRGSDSFGLTSLVQRQVFHHQL LKTVPHQAHPPY*LPRAALQQIHRC*LPR/ DTSQVAASLLASKSSSQTSGSLVSKSTSL ASVSQLASKSSSQTSTSQLPSKSTSQSSS SVKFSCKLTNEDVKHEATFF/LIRLYKTV AWKLVAVGGFSPNVNHGELLNAAIEAL KATLDVFFVPLKELADLPQNKSSQESIVC ELRCKSVYLTGCGKSKENAKAVASRE ALKLFLKKKVVKICKRKYRGSEIEDLV LLDEESRPVNLPPALKHPQELL*CVQNIT AYNIWYLKRKTDFCIV*N
4266	12317	B	5186	133	345	RLSERRNWTQAMLYLKGAQGRRYLLR PEPANGPLRPAHCRIDHAPISTYYILRRPE PSYRSSSYFPDDD*

4267	12318	A	5187	2	2168	KESRRTVRRMLRGRSLSVTSLGGLPQWE VEELPVEELLLEFEVAWEVTNKVGGIYTV IQTKAKTTADEWGENYFLIGPYFEHNMK TQVEQCEPVNDAVRRAVDAMNKHGCQ VHFGRWLIEGSPYVVLFDIGYSAWNLDL WKGDLEACSVGIPYHDREANDMLIFG SLTAWFLKEVTDHADGKYVVAQFHEW QAGIGLILSRARKLPATIFTTHATLLGRY LCAANIDFYNHLDKFNIDKEAGERQIYH RYCMERASVHCAHVFTTVSEITAIEAEH MLKRKPDVVTPNGLNVKKFSAVHEFQN LHAMYKARIQDFVRGHFYGHLDLDFLEK TLFLFIAGRYEFFKTKGADIFLDSLSRLNF LLRMHKS DITVVVFFIMPACTNNFNVET LKGQAVRKQLWDVAHSVKEKFGKKLY DALLRGEIPDLNLDLDRDDLTKMRAIFS TQRQSLAPVTTHNMIDDSTDPISTIRRI LFNNRTDRVKVILHPEFLSSTSPLLPMDY EEFVRGCHLGVPFSYYPWGYTPAECTV MGIPSVTTNLSGFGCFMQEHVADPTAYG IYIVDRRFRSPDDSCNQLTKFLYGFCNMS RRQRFIQNRNTERLSDDLWDWRYLGARY YQHARHLTLRQSFSKINFHVGTHAPPT DRKDFKYPR/PCSYPPFSFGSSGPSSP/ QSSDVEDEVEDERYDEEEEAERDRLNIK SPFSLSHVPHGKKKLHGEYKN
4268	12319	A	5188	1	1347	
4269	12320	A	5189	1	272	QTEGFKYRRPSSVPPSPSGSQASSPQSSD VEDEVEDERYDEEEEAAGFG/RVV*ESPSI LYAVPYSDSCCQVTPSLHCSHFILFPKT DKSS
4270	12321	A	519	1	760	
4271	12322	A	5191	225	430	
4272	12323	A	5192	16	1420	PSVRRNQRF*SCKDFDYWHN*RKQEGC YT/VLEKKVLSNRKQRF/DGSSGKLTGS TSSLNKL SVQSSGNRRSQSSSLDMGNM SASDLDAVDRTKFDKIFEQVLESEPLCL AEQDFISKFFKHSNIKVCLELWAGSRGP GMGGTITAT*LLGTPLPVSEKDMIRQM MIKIFRCIEPELNNLIALGDKIDSFNLYM LVKMSSHV* LQONVDPASFLSTTLGNV LVTVKRNFDKCISNQIRQMEEVKISKKS KVGILPFVAEFEEFAGLAESIFKNAER/RG DLDKAYTKLIRGVFNVEKVANESQKT PRDVMMENFHHIFATLSRLKISCLEAE KKEAKQKYTDHLQSYVIYSLGQPLEKLN HFFEGVEARVAQGIREEEVSYQLAFWK QELRKVIKEYPGKEVKGLDNLKVKVD KHLCEEENLLQVWWHSMQDEFIRQYKH FEGLIARCPGSGVTMEFT
4273	12324	A	5193	2	391	FFFFLRWSLA/SV/TQAGVQWRGLGSWQ RPPPGFKSFCLSLSSWDYRRPPHAQLI FVFLVETSFTMLAGMVIS*PRDPPASAS QSAGITGVSHRARLTLLIFKRCIRDESFE VFLVYVLFKTNILLKA
4274	12325	A	5194	2	302	KTLSGCPRLVQWCNLGSLQPL/PFPGS K*FSCLSLPGSWDYRSVPPRSANF*FLV ETAFHHVQAGLELSTSGDPPVSASQSA GITGVSHSARQ*RAF
4275	12326	A	5195	2	388	RATPRHIVRFTKVEMKEKMLRAAREKG RVTLKGKPIRLTADLSAETLQSRREWG /FNILKEKNFQPRISYPAKVSFISER*IKYF TDKQMLRDLTSRPALKELLKEALNMER NNRYQPLQNHAKM

4276	12327	A	5196	1	578	VAAKCMHKDAKKGFIRLDMS*FQERHE VAKFIGSPPGYVGHEEGGQLTKKLKQCP NAVVLFDDEVDKAHPDVLTIMLQLFDEGR LTDGKGKTIDCKDAIFIMTSNVASDEIAQ HALQLRQEALEMSRNRIENLGDVQISD KITISKNFKENVIRPILKAHFRDEFLGRI NEIVYFLPFCHSELIQLVNKEC
4277	12328	A	5197	3	1618	
4278	12329	A	5198	495	653	MTLTSIDPVLTTFFNLECP/VFTATASSG LGEVE*AIALN
4279	12330	A	5199	1	1433	MPESNCSLTWRHSVGRAVAAQGGEHSS QGASLVLGEPGGSSWLLGLEGDTGLW GGLLKEGRLTDGKGKTIDCKDAIFIMTS NVASDEIAQHALQLRQEALEMSRNRIAE NLGDVQISDKITISKNFKENVIRPILKVR GLSWHFLLEPKAHFRDEFLGRUGEIVY FLPFCHSELIQLVNKELNFWAKRAKQR HNITLLWDREVADVLVDGYNVHYGA RSUKHEVERVRVNNQLAAAL*SRITLLPG GCTLRITVEDSDKQLLKSPELPSPQAEKR LPKLRLIIDKDSKTRRLDIRAPLHPEKG RLTDGKGKTIDCKDAIFIMTSNVASDEIA QHALQLRQEALEMSRNRIENLGDVQIS DKITISKNFKENVIRPILKVRGLSWHFLLE PKVLTFFNLSVLVYHGNISQRLGEVNKL AVLPRLRSLTLHGPNMEEKGYYRRARG HSLHQGIEKYICESDDIFRKYCNNQFL
4280	12331	A	520	669	823	
4281	12332	A	5200	1823	4712	FFKNLCSAHYY/TWCVLPFFFLRQG LNSIGQAGVQWCNHSSLQPCPPRLKLSL HLSLPSSWDHRHAPLRMT/NFFKYLRRG LPVLPRLVSNSWAQVVLPS/SASQSIGITD MSH*PAQLPNSLPFFKRQFRSISPLGM Q*CDHSSL*PQTLGLKQFSHQPPFFVQ MGSCYVAPSW*TPKENTTIQHPHMYT LKTTVTFLYTELYSDIA
4282	12333	A	5201	3	298	RQSCSVA*AAVQWRDLSSLQPPPLGFKR FSCLSLSSWDYRPPRPSVNF*KIFLIET GFHHLGQAGVERLTSVDPGASQSAGII GISHCTWPELFK
4283	12334	A	5202	1	422	APMPAATMTARSGPAAISTRCPWRPRSP STPRPSWSGTCCAPTRSLRAATASQGPS PATNTPSPRAASPP*RVWAPRTETIKGHT AHSRLTGATTGPKLSAP/VATESGHPDSQ KPPTHPGTSDTILPPETASHPSTRRP*LPP ETASHPSTRRP
4284	12335	A	5203	123	201	KRGFCWVPQVGGQGHDFGLWQSPFPGL RQFSGFFLWKSWDYGHPPPC*ISSSSSSSS SFSSSSSSSSLKLWT*GDPLA*VSQRVGIP GLSHWP*PRLGGRGTILVYGNLHFRD
4285	12336	A	5204	88	167	KINMGILLKLVYRFNINPVKTPAGLFSSS SHE/ITEIDKRILKFIWKCTEHRIAKQSLK RTKLEDFLLNFKTYEATEIKTS*YRFNI NPVKTPAGLF
4286	12337	A	5205	179	474	FGFQINVFKDPVADPNKRSKKGRLSLHR TPAGNFVTL*GKGDEEYQDILLHTV *KNGKVTKAYSFDEIRKNAQLNIELEAA RSLGLMDWVCVCM
4287	12338	A	5206	195	351	

4288	12339	A	5207	1	1080	ERCTMPDEPLVRAPDKGTDSPSPPLEET SNGGRMLHESLRHAVPITRMQSSDTEA GPAYSDEDEYEDIEPRTLNEITTVTDKT SPWSSVISDTSEVISQPDEVQREGPSCPS PGPFCREELMVKSSFLSSPERAVNPHLPR QD*SPSQSLVACECEASKARVGGESASA NPQIPCPITLSGAQQSSITVGVSSPQTDQ NKEPKSEAPA*EELKVATS*GSVDSA*LA FKKLPLNLASQSRRENHKGPPIDSSDIRQ RQVTTGSETSTKQSLLLPGPIVVPNFFLPP QQLEASLRMLSLSATLPPAATTDQDKSE ATRGALSQRPCRPRPNSLPLNLPPEETLR IARIFSSQYSQKD
4289	12340	A	5208	1	1140	AIVEDKHSGRSYDITSDLGNVLTSTSIK TVNG*AESSDSGAESDEEDAQEDLMGA YHSDIDKKMMKIVADHKNLEVIVTNGY DKDGFVHDIQNDIHASSSLNGRSTVHVK PIDENLGQTGKSACVCIHQDINDHVEDV TGIQHLTSDSDSEVYCDSEOFQGEESL DSFTSNNGPFQYYLGVHSSPPMENSGR EDIQGPNGNIGNMQVVAVEGKGEVK HGGEDGRNNSGAPVHREKRAGETDEFSN VRRGRGHRMQHLSNEGTKGRQVGSAGD GERWGSDRGSRGSLNEQIALVLMRLQE DMQNVLQRLQKLEMLTALQAKSSTSTL QTAPQTSQRPSWWPFEMSPGVLTFAH WPFIAQWLVLVYLYQRRRRKLN
4290	12341	C	5209	68	331	MLKNVLMRCKGVHDREKFLVLDYFCQS SVLAVLYLILSLCYFPYQDVASECEVKC MPTFOFFKKGQKVGEFGANKEKLEATI NELV*
4291	12342	A	521	3	108	VCREREPHQVFNKMPK*SYRTVPVTP GIVLSL
4292	12343	A	5210	935	1036	
4293	12344	A	5211	1	3270	MRPKTFPATTYSGNSRQRLQEIREGLKQ PSKSSVQGLPAGPNSDTSIDAKVLGSKD ATRQQQMMRATPKFGPYQKALREIRYSL LPFANESGTSAAAEVNRQMLQELVNAG CDQEMAGRALKQTGSRSEAALEYISKM GYLDPNEQIVRVIKQTSFGKGLMPTPV TRRPSFEGTGDSFASYHQLSGTPYEGPSF GADGPTALEEMP/PAVRGLPFRSRPPRA RPPAPAPTQGLRCQRRGSRGTLPAAGRA LR
4294	12345	A	5212	3	274	LERLIFVGGGLGQFFPPPKLRFFPKIPQLVF FSPPPFRKKIFPCPPRLSLGPPRVLLKGPPS SSSSSSSSKKC*PLMFYCHRRWPTGVYV LP
4295	12346	A	5213	403	776	QGPDPHSLFWHLLQAPGLSPCLKWATA LETTPSPNGLPIVPVFPSSRMAGMIESH IIEIGFLPNKEKKKGCPPLFRNFGKF APSGLKVGYLKVFEPLKNYSDDHVIKW VR*VGRASGIY
4296	12347	A	5214	165	439	PPRQAKMQNLAAPGSHSQSPW/TLRPA L*LTPSQIFSA*RLKTDARSPPKPSFQG PVSLASITVVGDGQASKPLKTPQLWCQ LRQYSFK
4297	12348	A	5215	2	525	AAED*HCPIASETYKTITLWVTLPEV KSVFPFLINTEATHSTLPSFQGPVSLASITV VGIDSQAYKPLKSSQLWCQLGQYSFMH SFLVIPTCPVLLGQDILTSLASLTIPGL QPHLIATLFPKPPSHPLVSPHLNPHIW DMSTPSLVTDHAPLTIPLKPNHPYPVQC
4298	12349	A	5216	1	425	PGNEIYR/KGTISFFEIDGRKNKSYSQNL LLAKCFLDHKTLYYDTPFLFYVMTEYD CKGFHIVGYFSKEKESTEDYNVACILTL PYQR/RGY/GKLLIEFSYELSKVEGKTGTP EKPLSDLGLLSYRSYWSQTINEISEITS

4299	12350	A	5217	25	193	LGGCEDSRRKGAAPRCFLSRGDHSWEPRD *PPPWLFPNSNC**LAAGRPSVVRSSPS
4300	12351	A	5218	1	1383	
4301	12352	A	5219	1	1617	MAEVGEIIEGCRLPVLRNQNEDNEWPL AEILSVKDISGRKLFYVHYIDFNKRLDEW VTHERLDLKKIQFPKKEAKTPTKNGLPG SRPGSPEREVPASQAQSGKTLPIPVQITLR FNLPKEREAIPEGEPDQPLSSSSCLQPNH RSTKRKVEVVSPTVPSETAPASVFPQN GAARRAVAAQGRKRKSNCLGTDEDSQ DSSDGIPSAPRMTGSLVSDRSHDDIVTR MKNIECIELGRHRLKPWFYFSPYQELTTL PVLYLCEFLKYGRSLKCLQRHLTKCDL RHPPGNEIYRKGTISFFEIDGRKNKYSQ NLCLLAKCFLDHKTLYYDTDPFLFYVMT EYDCKGFHIVGYFSKEKESTEDYNVACI LTLPPYQRRGYRKLLIEFSEYELSKVEG KTGTPEKPLSDLGLLSYRSYWSQTILEIL MGLKSKSGERPQITSNDISEITSIKKEDVI STLQYLNLYYKGGYILTSEDIVDGN ERPMLKRLLRIDSKCLHFHSQRTWSQE VDSGDQDTCPHCKCORPASQDLGAD
4302	12353	A	522	383	542	LWSPPNISNLDTTTAGEPTEQDLNRERER EKE/RERERERERERERERERERERERES
4303	12354	A	5220	890	1537	MLLMFICDLLTLSCSIALGYELSKVEGK TGTPEKPLSDLGLLSYRSYWSQTILEILM GLKSESGERPQITIK*AWRCLPGGTWHG LSVPGLSGLGTDKGPQGT*PVLSHSE ISEITSIKKEDVISTLQYLNLYY/KGRE GRGDRCVGCRVQSSVG*PPAEPISSAQG QYILTSEDIVDGERAMLKRLLRIDSKC LHFTPKDWSKRGKW
4304	12355	A	5221	2	434	LRDGVLLCHPGWSTVAQS*LTAALNFW VRGSSCLSL*LVLRNSPLHPANLFFYFC R/DKHLTILTRLVLNFWAQVILRPWLPKG LGITGMSHCTQPNFKNQRKGYCQVNFN NQTKTSLAGNTYFTPIFFGNKHVTSY NFPSM
4305	12356	A	5222	3	384	VVAAEVPSFFFFLRTESCFVTQAGLQW HDLGSATSI/SPGSSDSPASASQVAGITGR HHYALA*FFVFLVDMGIHHVSGWSRN SLNLVNLPLCLGPPQYWGLQGMSPMPRP LKCPSLKGKMPNSHP
4306	12357	A	5223	2	322	LYFFSFETESCSVTQAGVQ/WWCDLGSL ATPPP/GSSNSCASAS*VARITGVHHHAQ LMFVFLVETGFHHFGQSGLKPLSDPPAS ASQSAGINRCEPPGTGHYIFSK

4307	12358	A	5224	1	2535	MQPLDFSSGSDPNISLSEKIRDQLVVGQ LIPDCYVELEKIILSERKNVPIEPVIDRKR LLQLVRENQLQDENELPHAVHFLNESG VLLHFQDPALQSDLYFVEPKWLCKIMA QDVSSIFGLYIRDILTVKVEGCPKHPKGII SRRDVEKFLSKKRKFPKNYMSQYFKLLE KFQIALPIGEEYLLVPSSLSDRPVIELPH CENSEIIRLYEMPYFPMGFW SRLINRLL ISPYMLSGRGICLLGQVVDHIDSLMEEW FPGLLEIDICGEGETLLKKWALYSFNDGE EHQKILLDDLMKKAEGDLLVNPDPQRL TIPISQIAPDLILADPPRNMILNDELEFEQ APEFLLDCFVCIHLYPSSDYISRHYMRTI NIVQTGFAKCRWRVTVHGADHGDGSFG SVYRAAYEGEEVAVKIFNKHTSLRLLRQ ELVVLCHLHHPSLISLLAAGIRPRMLVM ELASKGSLDRLLQQDKASLTRLQHRIA LHVADGLRYLHSAMIYRDLKPHNVLLF TLYPNAIIAKIADYGIAQ/SLL*NGD*KTI QRGTPGFRAPEVARGNVIYNQADVYSF GLLLYDILTGGRIVEGLKFPNEFDELEIQ GKLPDPVKEYGCAPWPMVEKLIKQCLK ENPQERPTSAQVFDILNSAELVCLTRIL LPKNVIVECMVATHHNSRNASIWLGCG HTRDQGLSFLDLNTEGYTSEEVADSRILC LALVHLPVEKESWIVSGTQSGTLLVINTE DGKKRHTLEKMTDSVTCLYCNSFSKQS KQKNFLVGTADGKLAIFEDKTVKLG AAPLKILNIGNVSTPLMCLSESTNSTERN VMWGRMWHKDFLLF
4308	12359	A	5225	2	223	LGVAFCFCFFCFWFVLFVGLQLLSNL EKFQPLCLQIFFLSPCPIRSLYI/C*SSKVV SQLTVTLVFPVFFSL
4309	12360	A	5226	236	1626	LAAAAHPLAGLVGGEAWIGGAKSWLSF SAGSSCMAEMATATRLLGWRVASWRL RPPLAGFVSQRAHSLLPVDDAINGLSEEQ RQLRQTMALFLQEHAPKAQEIDRSNEF KNLREFWKQLGNLGVLGITAPVQYGGG GLGYLEHVLVMEEISRASGAVGLSYGAH SNLCINQLVRNGNEAQKEKYL PKLISGE YIGALAMSEPNAGFWMVSMKLKAEKK GNHYILNGNKFWITNGPDADVLIVYAKT DLA AVPAISRGITAFIVEKGMPGFSTSKK LDKLGMRGSNTCELIFEDCKIPAANILGH ENKGVYVLM SGLDLAERLVLAGGLGLA MQAVLADHTIPYLHVREAFGQKIGHFQL MQGKMADMYTRLHGLFGQYVYNVAK ACDEGWHIIPKDCAGVILYAAECATQVAL DGIQCFGGNGYINDFPMGRFLDAKLYE IGAGTSEVRRLVIGRAFNADFH
4310	12361	A	5227	1	867	MATATRLLGWRVASWRLRPPLAGFVS QRAHSLLPVDDAIKGVLR/ESQRQLRQT MAKFLQENLAPKA REIDRSNEFKNLRE FWKQLGEPWAVFGASQPLVQYGGFRP GAYLGSMLLG*WEEISPSFSGAVGLSYG AHSNLSHQPSLLRNWEFRAQKEKYLPEG *FSGEYIGALAMSKPHAGSDVVSMLK AEKKGEATNLGAKMGRGNHYILNGNK FWITNGPDADVLIVYAKTDLA AVPASRG ITAFIVEKGMPGFSTSKKLDKLGMRGSN TCELIFEDCKIPGK
4311	12362	A	5228	3	391	SHHHPLAAPSLGEAISRSFQSLACSPGL PAADRLSYSGRPGSRQAGLGRAGDSAV LVLPSPGPRSSRPSMDEGGSLLEDSD EVFKMLQENREGRAAPRQSSSFRLQEA LEAEERGOTPAFLASSLSPQSFLARLQ/ GLATPPKLHTCEKCSLSIANQAVRIQGR YRHPGICYTCADCGNLKRRGHFWVG DELYCEKHARQRY SAPATLSSRA*APFG

						SCRKPWKLRREVARQPSWPAH
4312	12363	A	5229	2	384	FVHFQSKKTMRKICLFFFSSETGSRSVS QAGVQ/WARVIAHCNKLKLLDSSDLPALA LAS*VARTVGMVYHRGLACVYFIQINLIL YFLAQMNLLKKHQTFLEYEMLNLIASQA GKIYSSNRNIKVFWPQ
4313	12364	A	523	389	549	ERKRPSRKQ/RERNRKNQNERKSRGDW QRANVGAGQKEEMKCLAVELEIGSQPR S
4314	12365	C	5230	301	369	MPTLYNHCFLQLFTIISKLISY*
4315	12366	C	5231	210	329	MWNLCIWRVNCTINNTNMPTLYNHCFL QLFTIISKLISY*
4316	12367	A	5232	2	268	FFFLKRDVRSFCHPGLSAVAQL*LTVAL NS*VKGSSYLSFQS/SWHYRYVLPYLAN FKNFFFKRRELTFLRLILTSWAQVSFLL QPPK
4317	12368	A	5233	1	415	LFAGPSAMFYLAADVDFYVPVSEMPEH /KIQSSGGPLQITMKMVPKLLSPLVKDW APKAFIISFKLETDPAINRARKALEIYQ HQVVVANILESRQSFVIVTKDSETKLVS THSFYR*QKLL*KALIGSKIVQGS
4318	12369	A	5234	3	705	PVRFLDNFSSGRRGATSAAFLAAGYGV LFLYRARSAPFYAHRFPQTWLSALRPS GPALSGLLSLEAEENALPGFAEALRSYQ EAAAAGTFLAVEFTLADYLHLLQAAA QALNPLGPSAMFYLAADVDFYVPVSE MPEHKIQSSGGPLQITMKMVPKLLSPLV KDWAPKAFIISFKLETDPAINRARKAL EIQHQVVVANILESRQSFVIVTKDSET KLLLSEKKK
4319	12370	A	5235	200	636	GPCAMFYLAADVDFYVPVSEMPEHKIQ SSGGPLQITMKMVPKLLSPLVKDWAPK AFIISFKLET*PR/LIVINRARKALEIQHQ VVVANILGVKDSPLCLL*PKDSEPKLL SEEEIEKGVEIEEKIVDNLQSRHTAFIGDR N
4320	12371	A	5236	17	424	
4321	12372	A	5237	1	338	SDRQLDC/ALDLMR/RLPPQIQGNLSNLI DLVPSLCELDLSSVDQPLKIARDKVYVAK DYLLCDYNRDGDSYRSPWSNKYDPPLE DGAMP SARLRKLQVEACFCHTSLSVLST FP
4322	12373	A	5238	2	160	
4323	12374	B	5239	46	426	MSDQQLDCALDLMRRLPPQIEKNLSDL IDLVPSLCELDLSSVDQPLKIARDKVYVAK DYLLCDYNRDGDSYRSPMEVTKYDPSL GRMGNAVKLRAEKSLEV GKANKWPF DQYPKTLLLLLELDPG*
4324	12375	A	524	1	495	EELVPIFLTFLHKIEKEGTLPSNFYEASTL IPKPGKDITKENYRWISLMNIDAKILNK ILANQIQITKKIHHQVGFIPGMQGW NMHKSINVIHVNRIKKNHMIISIDAEK AFDKIQHPMIKTL SK/MGIQGTYSVIK AIYDKPTANIKQTFQIQD

4325	12376	A	5240	2	938	PRVR*APGPAAGGRATDAGTGTAATAAT TMSDQHLDLDCALDLKRRRLRPQQIEKNLSD LIDLVPSLCEDLLSSVDQPLKIARDKVVG QDYLLCDYNIDGDSYRSPWSNKDDPPLE DGAMP SARLRKLEVEANNAFDQYRDL YF*KVGVSSVYLWDLDHGFGLS/VILH KRKGWEDGIKRRSKGCWDSIHVVEVQ EKSSGRTPHYKLTSTVMLWLQTNKSGS CTMNLGGSLTRQMEKDETVSDCSPQIS/ ATIGRLVEDMENKIRSTLNEIFYGKNKG YRSMGLRSVQTFADNSKQEALEELTLV GGFERESKQC
4326	12377	A	5241	1	1911	
4327	12378	A	5242	3	803	ESVAAALSPLGNEVDIDVEHGGKRSRLT PVSPEVSATGEKSSSQSSCCSDPSKPG GNVEGATQSLAEQMRKIALESEGRPEAS LCPFPPTGTTGQPSDLWPAPPHSQHLCS PTYKPEGAGCWLAVDVCCHLKSRWEP RTL*LLGLCEWPLFPLDPCSLNCTCACVL PDCLPGARAMVRLGLLRVSPVCSW*VLF QEOMESDNCSSGDDDDWTHLSSKEVDPS TGELQSLQMPSESGPSSLDPSQEGPTGLK EAALYPHLPFGK
4328	12379	A	5243	2	1511	RGGCDRDGPFSASSPLAMASLTVKAYLL GKEDAAREIRRFSCCSPEPEAEAEAAAG PGPCERLLSRVAALFPALRPGGFQAHYR DEDGDLVAFSSDEELTMAMSYVKDDIFR IYIKEKKECRDRHRPPCAQEAPRNMVHP NVICDGCNGPVVGTRYKCSVCPDYDLCS VCEGKGLHRGHTKLAFSPFGHLSEGFS HSRWLRKVKHGFGWPGWEMGPPGN WSPRPPRAGEARPGPTAESASGPSEDPSV NFLKNVGESVAAALSPLGIEVDIDVEHG GKRSRLTPVSPESSSTEKSQSSQSSCCS DPSKPGGNVEGATQSLAEQMRKIALES EGRPEEQMESDNC/SQGGDDDDWTHLSS KEVDPS*TGELQSLQMPSESGPKLSGTP PREGPTGLERKLPLYPHLPPEVDPRDL SPFSQIACSMGLSS*LKGGLGSTRVPGRP KNY*HSERLWDTIQYSKHPPAVVDHFL PTFFLRAPLLVFIVVFKLCVELAGLL
4329	12380	A	5244	24	493	HWQVLPVRVKRLSPLKTHNCALPSTKLS AVRDYLFYSENLFNPQLNKDS*RG*QA LK/SPTAVFVLSLSHSFSAVSEGCFFHR ERQVASTSMEQLLSLAGIPFVEDSCPLQ KELSKTLP*LTLEVLGVSMFFKFSWLPVI WVFGFISQLSGLES
4330	12381	A	5245	1	4547	MRNPVHSHIGATVSHQTDGANVPNMP ALQSQILTSDTYSMQMOMIPSNSTRLPV AYQGNQGLNQSFSEQQVDWTQCISKG LTYPDYRPPPKLYRSPQSFLPDSTIQKQ NFIPHTSLQVKSQLLNSVLTLP SRQTS VPSQQYATQTDKRPPPPYPCRYGSQPL QSTQHITKHLMEVPQSREMLSEIRTSF QQQWQNPENNVSTIGNFTNLK VNTNSK QPFNSPIRSSVDGVQTLAQTNEEKIMDSC NP
4331	12382	C	5246	191	397	MLPRAGLLCGKLPNNFSQPSRQILLCL GCDSPHLTVGHEGWKTTLPGAGATPYRI GPFSLLQRGVS*
4332	12383	C	5247	598	744	MSKVLNQSTYITVQCQGYVSINSFYVSFY YSIKLAKRHLGTFRTVLVI*
4333	12384	A	5248	164	355	NGSTGCGIQANQYFNYSLSFESGKFV KCTEQLVPGENIH*LLEGSKKKLTLK NLFRNM
4334	12385	A	5249	1	308	KVQSFFIFYLFIYF*DG*V*LF RPGWSAVV LSRLTATSAFRFKQFSLSLPSSWDYRC PPLHLANFCIF**RRGFTMLARLVISIPQ VIRPPWPPKVLGLQM



4335	12386	A	525	219	471	INFKKNRLFNK WY\WTCVATLEKNKM NSFLMIYPKSNK*FKNPVNRGKKL*NL ILLYFKF
4336	12387	A	5250	67	367	SDELRTPGRESLPAENISL*DRVNHQPAIE SCTA*NYLYSINAKTKGEMLEAEGMRV VTNSVYHWRLCEKQQT VLMKAGCWRT DKLCLPPEGMLWAVMSR
4337	12388	A	5251	1429	1621	IPWIPPVSRSMVTHTWRAPTRFVHL PFFQ TDPFVVFISAFVLLRLVQKQP*QVVPDQ GPERGR
4338	12389	A	5252	180	411	IPWIPPV/CPFHGHTHLE/VHPHGLSISLYS PPADSPVQGFVRLISFTFSALADLPRSG PWSDDTCHGCFTVAASSEL
4339	12390	A	5253	288	530	
4340	12391	A	5254	9	257	IFTAVAFIUSES WKQPQCL*TNE*/IKLWYI HTMQYYSAIKRNEKLIHATTWMNSEN VQW*KARHKKPHIV*LHLYEGSQKRQI
4341	12392	A	5255	6215	7038	RTVTTFLSKDSHG VYCAQGGKIPDHQNP QCNRKQHPVSTILMLDKASFCQLRKRKH NLSVNCINRNPMSLKNTSWHSSLSVTQ RHQQQSKLHFQGSILLH*PSQNIL/SNI*K CINYC*HCSSVLLSYLFIETESYSVAQAG VQWHDGLLLQLPLRFKQFSCFSLPSSW DYRSAPSCPANFCILVEMGFCHVGQAGL KLLASSDPPALASQSAGITGVSHYTQPCS PFLKSTGLFSCKVLSNPYHKGRIYLGRM CFLNSTWHLVKSTLFCPLFI
4342	12393	A	5256	2	513	VLIQLVWIALLLVDPSRPVLT KDEPASS TSSFTSQSQKKGQSGFLQSRN*GCIALC E/VFQREEIY*VGMD*DSFRJWFFNFIFH LTVITSSDLHIHGEI WVVPNTDHCVRFF FVYDDCLVYAYINTLL*GFY*YILLVIV NYTGSVHWFIYYLVLNVLCFLLYI
4343	12394	A	5257	1	274	STPPHSSQRACEPLPSFAQCPR*APSPPAP HCALICPIPKMEERP/PM*IGR*RRHLLST YCARSCTEQAPCIILLNPHNVLDLSRLW VKGQ
4344	12395	A	5258	3	436	GYLSEVVEENTPPKMEKEGLEIMIGKKK GIQGHYNCSYLDSTLFCFAFSSVLDTVL LRPKEKNDVEYYSETQELLRTIVNPLRI YGYVCATKIMLRKILEVEAASGFTSE EKD/PAGQKVQDCYFYQIFMEKNEKVG VPTIQ
4345	12396	A	5259	1	340	
4346	12397	A	526	1	1423	MNPNQEEISDLPERIQETEKEGTL PNSFY EASITLIPKLGKDKTKKENYRPISMMNIE ANILNKILANQIQHIKKIHHHDQVGFISQ MOGWFNHRSINVIHHINRIKKNHMIISI DAEKAFDKIQHHFMIKTL SKIGIQGAYLN VIKAIYDKPTANIILNGKKVEAFPLRTGT RQGYPLSQLFFNIALEV LARAIRQENEIK GIHIGKEKVKLSL FAGDMIFYLENPKDSS KKLLELIKELSKVSRWELNNENTWTQGG EHHTPGPVVGSGEERGIALGDTPNVNDK PLTGAALASTLGVWENENKFTHLFNIHS QFCLPSQGIFFLCGTSTYVCLTTNWTSTC TLIFLSPKIDIAPGNQTL PVPVRAQVHQH RAVQIIPLLIGLV TNATGTGIAGLSPSLS YYHTLSKDLSDSLQDIKSTLTLSQSDS LAAVTLQNHRLRPPNRRKRWAMHLFR GRLFFHQPVWD
4347	12398	A	5260	215	384	

4348	12399	B	5261	347	1742	MPNTNGSIGHSPLSLSAQSVMEELNTAP VQESPPPLAMPPGNHGLEVGSLAEVKEN PPFYGVIRWIGQPPGLNEVLAGELEDEC AGWYGNLQEGTRYFTCALKKALFVK LKSCRPDSSSVLDTVLLRPKEKNDVEYY SETQELLRTEIVNPLRISAGQKVQDCYFY QIFMEKNEKVGVP TIQQLLEWSFINSNLK FAEAPSCLIQMPRFGKDFLFFKKIFPSLE LNITDLEDTPRQCRICGGLAMYECRE YDDPDISAGKIKQFCKTCNTQVHLHPKR LNHKYNPVSPLPKDLPDWDWRHGCIPCQ NMELFAVLCIETSHYVAFVKYKDDSA WLFFDSMADRDESNEFVQITGVIGK GK ETEGRVLT LHLIRAGSSVHVHCRQWMSL W*
4349	12400	A	5262	1	1547	PVQESPPPLAMPPGNHGLEVGSLAEVKE NPPFYGVIRWIGQPPGLNEVLAGELEDE CAGCTDGTFRGTRYFTCALKKALFVKL KSCRPD SRFASLQPVSNQIERCNSLAIWE AYLSEVVEENTPTQKWEKEGLEIMIGKK KGIQGHYNSCYLDSTLFC LFAFSSVLDTV LLRPKEKNDVEYYSETQELLRTEIVNPLR IYGYVCATKIMKLKILEKVEAASGFTSE EKDPEEFLNLFHHLRVEPLLKIRSAGQK VQDCYFYQIFMGKK*GKLGVP TISGSC*E WSFINSNLKFAEAPSCLIQMPRFGKDF KLFKKIFPSLELNITDLEDTPRQCRICG GLAMYECRECYDDPDISAGKIKQFCKTC NTQVHLHPKRLNHNKYNPVSPLPKDLPDW EIARHGCIPCQNMELFAVLCIETSHYVAF VKYKDDSAWLFFDSMADR DGGQNG FNIPQVTPCEVGEYLEDVSWKTLHSLG LPGESQGCARRLLCDAIYVPCTQSPTMS LYK
4350	12401	A	5263	29	258	LRKYHATDLIS*GSVVGEFDCCFSFLDG SLEDAVDGLLALALQPHKEQYKEFQDLN QEVMLNDDILKVSTFSQKLD
4351	12402	A	5264	98	497	THENNYNEKKDEIKIFKISLQISAQEEFPF FRRWKSCLCCPRLGVQWHDLGSLQPPT SP/GFKRFSGLKLP/RAAWIYRYVPITSG* FLYFQ*RRGFTHVGQADL DLTSGDPPV WASQSAGITGVSHHAQPPYC
4352	12403	A	5265	156	1047	VPAGEARVQWHDLGSLQPPPGSSDSP ASSSRVAGITGIKTNTICKKCAQNVQLYG TPKPCQYCNIIAFIGNKCQRCTNSEKKY GPPYSCEQCKQCAFDRKDRKKVDGK LLCWLCTLSYKRVLQKTKEQRKHLSSSS RAGHQEKEQYSRLSGGGHYNSQKTLSTS SIQNEIPKKKSKFESITTINGDSFSPDLALD SPGTDHFVIIAQLKEEVATLKKMLHQKD QMLEKEKKITELKADFQYQESQMRK MNQMEKTHKEVTEQLQAKNRELLKQA AALSKSKKSEKSGAITSP
4353	12404	A	5266	156	960	VPAGEARVQWHDLGSLQPPPGSSDSP ASSSRVAGITGIKTNTICKKCAQNVQLYG TPKPCQYCNIIAFIGNKCQRCTNSEKKY GPPYSCEQCKQCAFDRKDRKKVDGK LLCWLCTLSYKRVLQKTKEQRKHLSSSS RAGHQEKEQYSRLSGGGHYNSFSPDLAL DSPGTDHFVIIAQLKEEVATLKKMLHQK DQMLEKEKKITELKADFQYQESQMRK MNQMEKTHKEVTEQLQAKNRELLKQA AALSKSKKSEKSGAITSP
4354	12405	A	5267	4	496	DGFPSCCQAGVQ*HDLGSRQPPPGSSD SPASASRVAGTTGMHH*SRDVLIRILELE EGLELCPHFVSRKLPKTGQILTLMLSLAP VKLAPQPKLSWMELTRTQQAVPSPFGR WGGIGRKLVPPIAADGWASGQARGLL GGSGKGEGKATGCEREGTCLLQG

4355	12406	C	5268	190	435	
4356	12407	A	5269	114	267	QLYINHPTPPLSKSKEREMDKKDLKSR TLKQKQKPLVNVVHNSWF*DHSN
4357	12408	A	527	31	332	
4358	12409	A	5270	1	1071	
4359	12410	A	5271	1	1231	GRFLCCMLETVTRWHS DRATYEKECGN YPGFLTILRATGFDGKNKADQLDYENFR HVVHKWHYKLTAKSVHCLETGEYTHIR NILIVLTKILPWYPKVLNLGQALERRVHK ICQEEKEKRPDLALAMGYKIIF*CDLQ D*MTEGF*RL*NVLQC*SLSSAFRLWEI MRSCFHRLVRVTSDYQLPVYTG**FF*S HV*YFLIGRKYNFIIIVNRSSRVKKKPS* FKD*FIGKL*FLRKLGLV*KPSRTY*KWV FFNSLEPHSRMNNLLILFLKTSCLCLIW VCIFKHVRLSSYSGQLKK*EKSIP*YPEN EFPQRPPPRNAVA\SVQNGP\GGGPSSS SIGSASKSDESSTEETDKSRERSQCGVKA VNKASSTTPKGNSSNGNSGNSNKA VKE NDKEKGKEK
4360	12411	A	5272	2	3383	ITDQVLLPSLSLMDCNACMSEELWGMF KTFPYQHRYRLYGQWKNETYNSHPLL KVKAQTIDRAKYMKRLTKENVKPSGRQ IGKLSHSNPTILFDYVCFEILSQIQYDNL ITPVVDSLKYLTSLNYDVLACILSNCHIEA LANPEKERMKHDDTISSWLQSLASFCG AVFRKYPIDLAGLLQYVANQLKACKSF DLLILKEVVQKMAGIEITEEMTMEQLEA MTGGEQLKAEGGYFGQIRNTKKSSQRL KDA
4361	12412	A	5273	442	1457	KHFLYIYAQMNCFSRLRKKKKKNQLL LQVFSSADE*GSSSSSSSSSGHKKRHHK RNRSESSRRHSSRASSNQIDQNRER* VLPSSS*YFSIFSFPN*TRSGRKLKGQDR LQYEKTOIKEKDRCPLSSSSLEIPDDFGG RSEDPRDFYNSYKTQAGSSKTEKPYKSE DIFPARRNSSDSFCRNSEAKIYGYRRFEK DIEGRKEHYRRWEPGSVRHSTSPASSEY SWKSVEKYKKYAHSGSRDFSREHQRYS LNTNQGEYEREDNYGEDIKTEVPEEDAL SSKEHSESSVK/NKFTSEFTEYI*SDS*I*K RKRK*GQKINTPKDIGHPLPQNAH
4362	12413	A	5274	2	457	KLIFFPRKPSAPOEGRQFC*KIGNRPTQL TGPVMPVRNVYKKEKARVITEKEKNF QSPCLVFVMARAKARLFGIRAKKSPRK PQNQDVEKEKIKTLPGNFEISLAVMPGSP TWCVSVGTTWALGWGFTACDFLLPRGF GAFLKRQVQAPG
4363	12414	C	5275	27	158	MHSKPTGQVSWLGMTTASLPGTNASSM WMPWRLEDHSNLDALP*
4364	12415	A	5276	1	320	
4365	12416	A	5277	100	659	CPLVIRSCSSALWDIETGQQTITFTGHTG DVMSLSLAPDTRLFVSGACDASAKLWD VYSQCFFLSVYMMS*FAFSQFFPNNGNA FATGSDDATCRLFDLRADQELMTLTPHD NIICGITSVSFSKSGRLLLAGYDDFNCNV WDALKADRAGVLAGHDNRVSLGVTD DGMATGWSWDSFLKIWN
4366	12417	A	5278	16	495	AFSAPDTRLFVSGVACNASAKLWN/VGE GMCQTFTGVHESDINAVICFFPNNGNAFAT GSDDATCRLFDLRADQELMTYPHDNII CGITSVSFSKSGRLPPGMGTTFNFCNVW DALKSRTGQVFLAGHDNPRQPAWGV DVGMA\VATGWSWDSFPQDLGN
4367	12418	A	5279	5	108	SRGFTLLARLVLS*PQ/CDPPLPLASQSA GI/TRLGMSYHA*PIIIFETRSRSVTQDG/G VQ*CNHGLLQVHPGLKESSCLSLPG/G HAPPHLANFIFCRNRVSLCCSGWS*TSDD

						PPLPLASQSAGIIGWV
4368	12419	A	528	27	178	
4369	12420	A	5280	1	458	
4370	12421	B	5281	403	629	XVHLVKASCQACGQLDRVRKQVNNIPS FIVRLDSQKHIDFSRLSPYGGGRPGRVKR KNAKKGQGGAGAGDDEED*
4371	12422	A	5282	1	637	PVARSWVCRKTYGDPGRGPFEEKSRLDQ VELKLIGGVWGSQTKREVLRVKFTLAQD SAKAAPGNWLTALDEKDPTGVLFERQTP LLR/RGLVPQLGCWDEGQKMKLADYIPG P*RLEDFRETTPCKTQVFQSLGLAKSIHQ PRFACLSRQRHVRKQVNNIPSFIVR LDSQKHIDFSRLSPYGGGRPAVRKRKN AKKGQGGAGAGDDEED
4372	12423	A	5283	3	295	VCIGVLLCCLGCGVRWHDHASL*P*PPG LKRSSHLSLLSTWDHRHMLTHPLNFFIV EPRSHYVAQTGLKLLGSSSPPASASQSAR ITGVSHHTQSKK*FLFVEPRSHYVAQTGL KLLGSSSPPASASQSARITGVSHHTQSKK
4373	12424	A	5284	2	284	
4374	12425	A	5285	1	785	MTGLALLYSGVFAFWACALAVACWV NSGTDWAGGIWLERLLPRSRLGFLAGG DPACAGVCYTIFDLGFRFDVAWFLTETS PFMWNSNLGUGLAISLSVVGAAWGHSLT GSSIHVVEGS*KAPRDSKTKNLVSIIFCE AVAIYGIIMGNCSLSNMTVEPFSATEPQG HRQFGN*PWQGYSHGLGAGLHRKPCLN LFCGVVCVIGVTWGPCWQMPQNPTASL CKRFSIVEIFWQAPLALFGVIGRKFFKTS MSERWVTR
4375	12426	A	5286	2	350	
4376	12427	A	5287	1	999	NLLKTHKFLLGQDEDSLHVPVAQMGN YQEYLKTLASPLREIDPDQPKRLHTFGNP FKQDKKGMIDEADEFVAGQNKVKRP GEPNMSYVTKRRRSMSLLLRKPQTPPTC NNHVGGKGPPSASWFPSYPNLIKPTLVH TDATIIHDGHEEKMEENGQITPDGFLSKSA PSELINMTGDLMPNPQVDSLDDFTSLSK DGLIQNLVVTHL*EEPKTAASP*MTKKT Q*HLLWELCQIHYKSLLWHKE/VNADI KHQLMKEVRKFGRKYERIFILLEEVQGP LEMKKQFVEFTIKEAARFKRRVLIQYLE KVEKINSHHLHNNISHINSRSC
4377	12428	A	5288	329	661	ITLSLLSFFNLRPSFALLAQAGVHWRDL SLQPPPLRFK*FSYLKSPRSWDYGHAPP RPANSVLLVETGSLHVSQGGILPTSGDP PASASQSAGITGVTCARPPSLFS
4378	12429	A	5289	46	554	NKTRKDPFPYTPAHGHTPPTPSLPG/C SAHGLKPRGSHCDQPPSTCRPPVQSPV AHASQVAGRTWA*KRALHLPGGGVKRK GTGSPKAPRSGCLPYKLGSTARAAGSC SPAE/EPETFSQGGQLPVNKGKLRVVGQ PSFQCAPRDCSRYPFQFGEQGRAIEHQI P
4379	12430	B	529	110	719	XGRQQHQRWHETPDIKLFGKWSTRDDVQ INDISLQDYIAVKEYAKYLPHSAGRYA AKRFRKAQCPIVERLTNSMMMHGRNNG QEAHDCAHRQAACLRDHNTCSQAKNLE VRGTAINSGPREDSTRIGRAGTVRRQAV DVSPLRRVNQAIWLLCTGAREAAFRNIK TIAECLADELINAAGSSNSYAINKKDEL ERVAKSNR*
4380	12431	A	5290	228	386	

4381	12432	A	5291	3	257	GPRERETGRTATAVEPDSCEERTYSNDT KRWCSHPGNGGVPERQHLG*ATGSW GAKPLRLAAATRASGNPGHRSCLKCLETI F
4382	12433	A	5292	3	1379	NEFFGEGKTLQAARHFAAMKALQALQN EPIPERSPONGESGKMDDDDKDANKSEI SLVFEIALKRNPVSFEVIKESGPPHMK FVTRVSVGEFSAEGEGNSKKLSKKRAAT TVLQELKKLPPLPVVEKPKHFFKKRPKT IVKAGPEYGGMNPIISRLAQIQAKKEK EPDYVLLSERGMP*RREFVMQVKVGN VATGTGPNKKAKKKKNVAVAMLLQLG YKASINLQDQLEKTGENKGWSDPTGFP EPTNNTPKGILHLSPDVYQEMEASHHKV TS/GHYSRLFVTQRYEPTFKLFSSVYLPH RIVQSTFARHLLMNGTSSTAEAIKLGSS PIPLVPPVQPSKQLGIFSKGFAFRVHYC DRQKWQRVCDLSDISPCADGL/SHAIGSS IEASHDQAALSALKQFSEQGLDPIDGSM NIEKGSLEKQAKHLIKVDHNPAPPGSIA HDCKISNSAV
4383	12434	A	5293	7	351	SSTSLIRKMQIKTTRYQNIPNRMAKIKNA DNTKL/WSRILTNYWWEYRHLHK*KYV HKKTCNFMLIAALFIKFLKWKFKHSST GE*IKL*DRHMTTEYY*AIKKAQATDRM QHE
4384	12435	A	5294	3	1585	GEPLI/LHHTTCH/NSKALIAFLAFLIIVTSI ALLVVLNIIYDLHRKRCNVDEQQELVE RYDESNLNMVQPIHADIMLETYHRRIA/D EGRLFLAEFQSIPRVFSKFIKEARKTHN QNKNNRYVDILPYDYNRVELSEINGDAGS NYINASYIDGFKEPRKYIAAQGPRDET DDFWRMWEQKATVIVMVRCEEGRNRN KCAEYWPSMEEGTRAFGECCCKDLTKH KRCPDYIIQKLNIVNKKEKATGREVTHI QFTSWPDHGVPEDPHLLKLRRRVNAFS NFFSGPIVVHCSAGVGRTGTIYIGIDAMLE GLEAENKVDVYGYVVKLRRQRCLMVQ VEVCSNL*DYSHFGFLDLNLFQVIIMIFF KNPNSSQPQTVDLTKTW*SPWPMML CIW
4385	12436	A	5295	1	1323	MEDSRKAQKRDTKIEREEQLYWPSRKS GKSKGDLVLHTTYKPSHSGGRAVSGFLG SPIPSLGSWTAFLDPPWARVEPIALKGLT QRSPNGGGHRVCFVIPPAPPDGSEQKKR LCSFRKEQSLPGNLENSFGSCPRLSRQY VYESARTTALMRLGCPLKQIQLISQDLSP FEYRESLPMKDKQNKHQIRISLSINTIQUETI ISPNELSKSPGTNSGETEIHDLSDREFKIA VLRTLKEIQDNTEKEFKLYQINLTKRIEII KKNQAEILELRNAIGIQKNASQSFNSRNG REEEIISELENRLFENTQRRQNKRIKNNK ACLQDLEYRLKRANLRVIGLKEEVEKAI GVESLFGIITENFPSLEQDINIQVQEGYG TPSRFNPKKTTSRHLIVKLPKIRDKERILK VTRENKQVT*NGTHICLAADFSVVAL*A RREWH
4386	12437	A	5297	3	226	GSQCEQGCPPGRYGPGEQLCGCLNGGS CDAATGACRCPTGFLGTDCNLTCPPGRF GPNCTHVCGGQGAACDPVTGTCLCPP GRAGVRCERGCPQNRFGVGCEHTCSCR NGGLCHASNGSCSGLGWTGRHCELAC PPGRYGAACHLECSCHNNSTCEPATGTC RCGPGFYGQACEHPCPPGFHAGACQGL CRCQHGAAPCDPISGRCLCPAGFHGFCE RGCEPGSFGEGCHQRCDGCGGAPCDPV TGLCLCPPGRSGATCNLDCCRGOQFGPSC TLHCDCGGGADCDPVSGQCHCVDGYM GPTCREVGPSPRTRP*PRGPAAAPLGS

						SGRTATSPVRRASAPTAPTCVGVGRGR PATL
4387	12438	A	5298	152	990	LLLIHSEEKPFEDNLYGKALSSNSHLHGP RRLCT/GENPEE/CEQL*KAFSAISRDCD SSH*GRKPVKVSEGFSDSHPLRHTGNHT MEQHSEMRNTLQQKCSHY*ANYSVVFC S*LWESLECSIGF*GDLRINSGENAPFEHH QYWRAFWFSTFVKET/W*SIHTTEK/PWK F*EEKAFSDASVLGK/HMELLPGCKTYE YINIGKFFSDSSLSCI/WRELTWRNP*ECN QC*DA/FSLNSSLSG/HQFSLGTKKYNHC FECGISFIQCLICRLDCWLINFFSLFFF
4388	12439	A	5299	1	181	EIEDLN*TITQLYLT*HLYRTLHRTPPAYK FFSSVHETFSRIDHVLEHKTSLEF*RLK
4389	12440	A	530	443	565	QPGFGAGARAPNILTHKHLG/LLEFKTTG AQQQGF*LNESSF
4390	12441	A	5300	1	170	PPPPFPLIPD*G*PPSPSPGQLQSAPP PLPCPDITLSYPGRRPVLGLSLMD
4391	12442	A	5301	846	1094	IPAL/*FYFIFVYLNILKYLFFFD/DGVL LCCPAWSAVA*SRLTATFASQVKRFSC SLLSSWYYSVP/SSLANFCIFSRDG/SFIV LAMLVLNS*PQVILLPWPKVL*LPIMEC SSLTIAHCSLNLPGTSNPPASASK
4392	12443	A	5302	19	391	AYPLRGGGRDRLRGGPSRSVSLSVV PARV*RRRRRLREEARGAMTSASTKVGEIFS AAGAAFTKLGLTMOQLHPVADSSPAGA KWTETEIEMLRAAVKRFGDDLNHISCVI KGPDKGHCEQTQGI
4393	12444	A	5303	1	338	SLIFSDSLSSISGTNTLAAFLSWMLPYIPW ILQARPALGLLHLLAACNVVGQSAT*PS PSLPLGLCSSSHSQ*GLF*PPVFKISPLITD NPNPFDLHLMDFIQKTIKISL
4394	12445	A	5304	3	180	
4395	12446	A	5305	1	518	RAAQSPCSPWSRLACSGGGGVIREEARG AMTSASTKVGEIFSAAGAAFTKLGLT MQLHPVADSSPAGAKWTETEIEML/PEGCC EAIWGRS*SHQLCHQGTDSGPDKGHC*N ARYIEDFWASPPPA*V/IPRKGPRRWASG VFVHLLQLAPPPKQLPVFPEGRGSPPIKE TERLM
4396	12447	A	5306	1	705	GAKFQRTSRVPRTTGPGQLKCLEDKVS RLETDELDEEKNTEVELTDRNLNRGRDQVD QLRTELMQERS/SSGRTWKCDKISLERQ NKDLKTRLASSEG/SPESLVPASLSLPRI SCCRERLPAEQRVKTVLRSTNRKLERKV N*LSLQIEDERHHVSDTKDQLSLRVKAL KRQVDEAKEEIERLDGLRKKAQREVEE QHEVNEQLQARIKSLEKDSWRK/GFPLS C*VSSQKRRAELR
4397	12448	A	5307	831	1159	DVKSksFFFFLrWSL/NPFAQAGV*WHD LSSLQPLPHRFKQFSCLSLLSS*DYRRVPP *LANFLYF**RQGFTMLARLASNS*PHDP PASASQSAGITGMSHRTQKKQIS
4398	12449	A	5308	296	526	FNCCEEKFKKKPCFVSFLEGLERG*VK CQEHIPDTH***LLGLSEQINSDSRLRKE LNHFILFLEQLTCPPHSRER

4399	12450	A	5309	5424	5957	YNFFLNEMGSCSVAQAGVQWHNHSSLQ P*TLG*SSYHPASAS*VAGTVCTCHHVQL VF/IFFFLR*SFALVAQAGVQWCDLGSLLP PPPSGFERFSCGLPSSWDYRRPPLHLVN FFFLYF**RWGFTMLARLVSN*PHDHP ASASQSAGITGMSHHVWLNFFFNCKSLI FSNVFRN
4400	12451	A	531	82	986	TMNTRNRGVNSGLGASPASRPTDRPDQP SGRQGELSPVEDQREGLEAAPKGPSRES VVHAGQRRTSAYTLIAPNINRRNEIQRIA ELELANLEKWEQNRAKPVHLVPRRLG GSQSETEVRQKQQLQLMQSKYKQKLKR EESVRIKKEAEEAELQKMKAIQREKSNK LEKKRLQENLRREAFREHQYKTAEFL /RQTEHRIARQKCLSKCCLWPTILNMGQ KLGLO\DSLKAENRKLQKMKDEQHOK SELLELKRQQEQERAKIHQTEHRRVNN AFLDRL/RRQKSTRWPRAIWRLLYE
4401	12452	A	5310	2	237	IKRFSYLSLPNSWDYKVPSSMPG*FLYF* LR*GFTNVGQAGFEIP*PQNDNPLSSQS AGITGMSHHNRPLFYFLK
4402	12453	A	5311	36	386	LNHRKFMLLYYH*LLLFL\FHF*DRVSV CHPGWSTV\VNSQGFTAALTYWVK*SS CFNPPCVSWEPRGACHHALANFLIFCKN QVSLCLPRLVSN\WVQAILPSWPPRA GIYGV
4403	12454	A	5312	1	310	FFFFET/ESHVAQAGVQWGDGLL*SSP P\GSSDSPASAS*ASGTTGA/QHHAQLIFV FSVETGFHPVSQDGLDLLTS*SARLSLPK SWDYRHEPLAPGLGFTF
4404	12455	A	5313	598	882	LIFLFSFFFFSFFFFFFFFFFFFFFFFFFFF FFFFFFFFLLLLLLLLLLLLFFFFFFFFFFFF LRQSL/DSVAQAGVQWRHLGSLQALPPR FAP
4405	12456	A	5314	439	1169	QSGHRYLYNIIHQVLCFTIFLRLQDLAV L/TQAGVQWC/DSWQPRPPGLK\GTP TSA AQVAGTTGMCHH\TR*IFFFFFFFFFFFFFF FFFFFFFFFFFFLRLQSL/DSVAQAGVQWR NLGSLQPLPPRFKRFSCGLPSSWDYRN APPHPANCCIF/M*RRGFTMLAKLVLNSG DSPASASQAGIIGVSHHARPPRYFKKYI FCRDGGLTMLLGWS*TPGLKQSSHLGFP NFWDYRCEPPCLATFIL
4406	12457	A	5315	1	222	ETGSHFVTQAGV*WCNLGLLQPLTPGLK QFSLSPSSWDHCKVPSPCANFCTLG K*RRVSTMLPPGWS\QTP
4407	12458	A	5316	1	234	LRQSFAGWPRLECNGTIPAYCNLHLLGS SNPPASSPRRLIFVVLVEMRFLYA*AG LELLSSDLPPWHRKVLGLQA
4408	12459	A	5317	1	196	FFLINLTLLIVTAQFIN*LDFIDSYSTICPK PPEYTFFSRA/PNGTFTTKDHILGFKISLN KYKSI
4409	12460	A	5318	1	477	SCWSPV\WGHPPRDREPPPS*LGIQSSPG VPQAALPPWSPASHQASATWAVLPLPP LQGPAREPPCPHLLRRHVQPTKTS\VSIL SAPPLPPPG*DLPEASFSQWACKGINKCL QGLGLVCRRTEHKDLGLGLFGLVLAM VEVRGVDLTENNSGASVPRGR
4410	12461	A	5319	139	398	FYFFFYFLRQSCSVNQAGVQ*/HCLNSL QPPPPGFKRFSCSLSPSRWDYKCPPPCTP NFCVFS/EMGFLHVGQAGLELMTSGDPP GFG

4411	12462	A	532	122	1340	EAASKTTKDNICSWKDDTIGCKEMPTSE NCPSFALHQKISDRNHGECREYGKTLCCQ DSKPVQHERIHSSEKPNRCCECGKNFSN GHQLTIHQRLHVGEKPYKYEKCGKAFIS GSAFVKHGRIHTGEKPLKCKQCGKITSG SYQLTVHKSIIHTGKKPYECGECGKAFLV YGKLTRHQSTHTGEKPGCEECGKAFTS FSYLVQHQRHTSEKPYECKEKGAFSTS SPLAKHQRIHTGEKPYECKEKGKSTFVY GQLTRHQSIHTGEKPFESIHAEIKPYRCK ECGRITFSRASYLVQHGRHTGEKPYECK ECGKAFTSGSYLVQHQRHTGEKPYECK ECGKAFTSRHQLTVHQRVHTGEKPYECK ECGKAFTSRVHVLTHQRKHTDVKPYECK KECGKITSRASYL
4412	12463	A	5320	11	137	RWGFTKLPRLVSNWPQAILSPWLKVL NNHREALYFSLYYISKYTEGQFRNRLYP GTICQDYLWRYLLFLFIFETESCTVIRLEC SGSLQPPPPRFKQFTCLRLHSSWDYRARP PWPWPFNCISRVQTFHHVGGGLDLV DLCDPPASASQAGITGREHPAPGTYLW EGFKKSFKSRA*RTLFFPLLH
4413	12464	A	5321	1	293	LERMSFGHIQTKEDILQENTIFLATEVQIQ PNPD*TPEAKAFNRCLSYRKEDRIDVH QLTCDPYLMPHMRMSVSTCSPAGAAIAS TSGASSSSSSN
4414	12465	A	5322	3	291	
4415	12466	A	5323	14	943	HRILEPLIFHHFFFSSAPPQPELLY/PASL TLPASPGREEVYPLPARLPSLPRWEPLQV WLALGAVKLPLSPWSPGNGLGKPPGT PKRRGALFCHMPGILTP/WMPGARWTKP PANPPST/TSVPPKDG*KLQPGGLRGKP GPERGWNPPCP/RSRPPYLLC*PQTLPR A*CFPIPKMSFTGHSPCRASLGHLE/VGH GIPLWPRVCQRRKSRAFFVLFFFKGACLF NVNNRKP*YLCNTE*YFNHVHLDVHNI FITKQQUEST*PWLPRGVSWLGAGGGYQG AWDREAPPPRPIKLPPTLASRMRSCHL
4416	12467	A	5324	12	486	
4417	12468	A	5325	51	390	DGVLPSLLGWEVMCGSSAPLLRSPVDRL DGMWGVCHPWGSIVAQSQFTAASNLL ASRAT/LSLPSSWDYRRVPPHSAHFKFL *KWGLAMLPRVLNWSQVILLPQPPKV LEL
4418	12469	A	5326	279	380	
4419	12470	A	5327	618	818	
4420	12471	A	5328	1	197	
4421	12472	A	5329	2	498	CPRMTPKDFQ*PVL/VVTNLLGHVIDIKW MSIAFINDRAWPSAFVSDENHARIQCDG QHRFEVSVSELPDETDSSTVLDLDHOG LGPPPPPAEPDPLQLLLQQLFGLGQLSCV VGPGPWRLSSARDKQNMVSIHKVKR PQSPLRAVYWPLRYCILPSRRATVN
4422	12473	A	533	456	824	DRVSLSPRLECSGVILAQCNLHLP/GFNR FSVTLGLPSRLGITGHAPLCGQFFVFLVE DGGFHHVGQAGLELLTSSDPPTSAPVKC RDYRHEPLRLACCSFLKQENIHNCWVRI YIRIFQTN
4423	12474	A	5330	600	811	PIWLSLSPWHFINQRKEKKK**DIVKREK PLMGLSTLTSI*MQSKPRKEHQINLKSEI K*LQDLSQYFGR
4424	12475	A	5331	1	75	FFFFFFFFFKLAMFVFILFFFSK*KEIVLS QFLVFVL/TYLFYVFTSLKVALKISRDIKST FLRVALFFFLNNSWEFCGSTAFPSVSML CMF*LLL*FFFFFFFFFKLAMFVFILFFIF SK



4425	12476	A	5332	949	1711	VTIPLIPDLKGSSCVGPPKP*DCRHWTPC LTLIYFFFKVESPSVAHAGVQWHDSSL LTLSPDQV/HSPVSAF*VAGIQG/MHHHA RL/FFFFFFFLRQSL/SSVAQAREQWCYH GSLQPPPSGFKRFSCLSLPSSWDYRCPPP HLA/DFVFLIEMGFTMLTRLVSNS*PQ/C DLPASASQTAWITGLSHRAWLNFFCIFI YGVSPCWPGWSLTPDLK*SACLSLP*CW DYKCEPPCPAQFTFIRKDSFADVYCSVS
4426	12477	C	5333	11	154	MESRSVARLECNGAISAHCNLHLLGSND SPASASRVAGTTGTATTPG*
4427	12478	C	5334	163	270	MNKMESLFYCFNADILIKQDYFHHQHHL YIYTKPV*
4428	12479	A	5335	92	404	WLQICVSGCICT*AMALYICINVVVVVKV LFYEDVCIKAVK*AFHFIHNLMCVYICM CVCVWNIEGLYIPQRYIHMAVLLHRSN SQTPGSIRYKFKISFIGFI
4429	12480	A	5336	2	1100	FALAARLQEFGRKYFTESGLVGLLEQA AASFMSMAGMYEAVNEVYKVLPIHEANR DAKKLSTIHGKLQEAFSKIVHQSTGWER MFGTYFRVGFYGTKFGDLDEQEFVYKE PAITKLAEISHRLEGFYGERFGEDVVEVI KDSNPVDKCKLDPNKAYIQITYVEPYFD TYEMKDRITYFRQKLQSSVRFMYCTPFT LDGRAHGGTSMEQFQKGRPNLDYVSCL FPYIKTRG/PMSLIKRRSSLHPFEVAIED MQKKTQELAFATHQDPADPKMLQMV QGSVGHQVNQGPLGSCPGFFCSGNT** PKALSDIH*KLATLAFKDFTKRCEDALR KNKSLIGPDQKEYQRELGEKLSSALKRA LPAT
4430	12481	A	5337	48	1057	RCWENCTSTCKTMKSDPYLR/PYTTINSK WIKDLNVRPETIENIGEFLDMITLGN FLDITPKAQSTKTK/DKWDYIKPKSF/CTV KETVNKMKQ*PTD\W*KIFVRHIYKGL VSKIYKEFIQLNF*KWAKDLKRHFSEDD TQMANRYIKGCST*LIKEMHFKNHSKY YLSPVRLAVIKKNKNNKC/W*WCGIKGT L/LHCWWECLVQPLWKTEWKFLARKIK LPYDPAIPLGIYSK*MKSPCKYICS/RV FIAALFIVA/K/TWRQLKCPLT/V*IRKLCI YMPYTPMEYYPPLKTKKNPTISCHLLPT WMGLKDTVLEISQTEKKILHNFTIYVES KKKI
4431	12482	A	5338	2	409	PLALALAMAYPSCPGDAHGP RPPLSP PS*PASVP/TSP/PQSSA*FLCPQSYVEGL TPRILPAGGGHVPCSRPSSSPLASVSAP RWGALLPGPCPTSLSSGCRKGRASPRA HPPPTASLCTALWPPCFSP*PGVGLGNG LSLLPRRCTWPAARSTVSSLLACLPNS PLNLLRDSSVLSHTQLRGSPHGFYPLEGA MFPAPALPPHQALPRYQPPGGELCCCLD HALLPSPRDVGKGPALELTHPPQACV LRSGHLASRLHNL
4432	12483	A	5339	32	323	KFHLGGGWFPPLFPGGARGVGS*VR GFRPPWAPPLNPPFFPKQNSPGLVVFAF RPSSSGG/PGPGNSPHPGGQGFG*QKFRP CPSAWGTGGGFP
4433	12484	A	534	1	2278	
4434	12485	A	5341	4	329	IIAHCKLKRPSNDPPQPPSSWDCRHAPP HPAN*FFF*EMGSCHVAQTSSQTPALNPS RYPPTSASQGAETVMSHCAQLYPCFLT KEK/FSHS*IRRLLSETSNGEY
4435	12486	A	5342	3	274	FQSQNIKLNLMGVLCFETEHSVT*AG LQWLDLSSLQPPPPGFKQ/FSCLSLSSW DYRSPPRGPVNFCIFSGDEVSPYWSGWS QTSCLK

4436	12487	A	5343	1	1075	MVDGTL L L L L L S E A L A L T Q T W A G S H S L K Y F H T S V S R P G R G E P R F I S V G Y V D D T Q F V R F D N D A A S P R M V P R A P W M E Q E G S E Y W D R E T R S A R D T A Q I F R V N L R T L A R L / Y * Q S E R R P G S H T L A Q W M H G C E L G P D N A S F R G Y E Q F A Y D G K D Y L T L N E D L R S W T A V D T A A Q I S E Q K S N D A S E A D H Q R P Y L Q A T F V D S F P K * L Y E G K E T F L H L E P P K T H V L H H P I S D H E A T L R C W A L G F Y P A E I T L T W Q Q D G E G H T Q D T E L V E T R P A G D G T F Q K W A A V V V P S G E E Q R Y T C H V Q H E G L P E P V T L R W E A R F P S P P L P S W A S L L G L V L L G S V S E A V V A A V I W R K K S S G H F L P T G G K G G S Y F K G
4437	12488	A	5344	58	426	K L Q L L * F F F W F F C L F T Y F L E T V E C S G A I I A H C S L K L L G S S H P P A S A S L V A K I T G A C H P A W L I * V V L I V L F K R K W Q S H L K L M V E K R F L S E G Q I L S V Y H F R V P L L Q N D R N L A Q I I L G R K R E M Y
4438	12489	A	5345	3	284	K K I L R K K I L R K S S V * I * D * S S Q P E N I P * K Q F L S N H P K C I T I L S M R N M S I M K K G G R I S E D F I K L F F P S L L S H L L V I E W G L Y I E I Y L T P P N N T F
4439	12490	A	5346	2	225	T L P C T L S T S T P W S A S S Q E R E M S F G D G * P V G * P P L T A V P C C S V W G L R R L * G E R T K L G I G A A G G F H S Y D G N T Q T
4440	12491	A	5347	3	104	W S T V A R S * L T A T S C S F C L S P P S S W D C R R V P P C L A / S F H F Q Y I A L N N * A * A I I L P Q P S K V L G L * A S A L Q V A G T A G V Y H H A W
4441	12492	A	5348	2	392	T G K N E I Y C I C F I D L E Y Q * K I G L L L H I G D K E E Y S / W N S G Y F I G Y C L E L P C P V V K V S G N * N D S I E A A V L M T T P S K I K I * V T L Q S K E A S P I K V L T Q V I G D I K G I L E N G H Y K Y Q L * Q F K L Q K G N D N H
4442	12493	A	5349	2	67	A A E D * H C P I A S E T Y K T I T E L W V T L P V E G K S V P P L I N T E A T H S T L P S F Q G C V S L A S I T V V G I D G Q A S K P L K T P Q L W C Q L G Q H S F M H S F L V I R T F P A P L L G R D I L T N L S A S L T I P G L E P H L I A A F C S S S K P P S H P P L V S L H L K P Q V * D R L G N L Q D H H R C F G
4443	12494	A	535	750	1053	P S T L S S L I S R H D D E A T R T S T S E G L E E G E V E I G E T L L I V E S E D Q A S V D L S H D Q S G G I S L N S D E G D V S W M E E Q L S Y F C D K C Q K W I P A S K E L L K S F D L S I P V
4444	12495	A	5350	2	275	E T E S C S V A R L E C S G M I S A H C N L C L P D T G N S P A S A S * V A G I I G A C H H A Q L I F V L V E T E F H H V F H H V G Q A S L E F L N L V I P P P R P P K A L G L Q G
4445	12496	A	5351	3	1031	S S A P E A A K K P T P C H R C R G L V D K F N Q G M V D T A K K N F G G G N T A W E E K T L S K Y E S S E I R L L E I L E G L C E S S D F E C N Q M L E A Q E H L E A W W L Q L K S E Y P D L F E W F C V K T L K V C C V P G T Y G P D C L A C Q G G S Q R P C S G N G H C S G D G S R Q G D G S C R C H M G Y Q G P L C I D C M D R L L Q L R S R N E T H S I C T A C D E S C K I T C F G P * P T G L R R S C E V G W V L D E G A C V D V E K C A A Q T P P C S A A Q F C K N A N G S Y T C E V E G D S S W V G C P G K G P G N C K Q C I S G Y A R E H G Q C A D V E R V P H * P E K T L C E E K T K C Y N T P G S Y V C V C P D G F E E T / R R C L C A A G R R L K P Q K G E S P T Q L P L P
4446	12497	A	5352	206	330	K M L Q L A L Q S C I K V R T L N S R H L G A G V T A H E E * C P C C H P M I K Q
4447	12498	A	5353	1	8271	
4448	12499	A	5354	2	10028	

4449	12500	A	5355	2	5217	APLDGEVELLQQKLREKLDEFNELAIQK ESADRQVLMQEEEEIKRLEEMNINIRKKV AQLQEEVEKQKNIVKGLEQDKEVLKKQ QMSLLLASTLQSTLDAGRCPEPPSGSP EGPEIQLEVTRALLRRESEVLDLKEQLE KMKGDLESKNEEILHLNLKLDMQNSQT AVSLRELEENTSLKVIYTRSSEIEELKAT IENLQENQKRLQKEKAEIEQLHEVIEKL QHELSTLMGPVVHEVSDSQAGSLQSELLC
4450	12501	B	5356	224	326	XSSSDGNLRPEAJTAHVVSLLAALLLAV GLALL*
4451	12502	A	5357	87	558	STFFPAIKHWVDLTAQRGHCLSPRSHSN EGRQMQUERGPRWAGSPAPSPWSPEPG PRLHGRTERKERGLWGLDTRQKVGSA SRGVGPEPQHT*AAGTAKQRQHAQAQSP HGCPQPLTPSPPESEAGVSAAAVYKP ATRSPGQCWWLQQAFAFR
4452	12503	A	5358	3	713	TDRGCRGRDTFHEPELG/PKTPGPGAPLQ VPLAGDAVGASARSPLGAGNPPPIPW RTPAGAASGAGPAAPAGPLGSLG/RKY RPLLRRMRLALFCLHPPAPAPMATCVHKP SLLSSRSSTS/SAALLLAVGAGTVGAE/RF GRSGRRRAPTPVARSSSPMQPRPGPLR TPRRRCRAACPSRSPLLHLSPIAV*PWG KAVPSLGSQIHPVLNSREEGTSKTLPLRS REDGAIHFYIFI
4453	12504	A	5359	2	807	RPQGFPWRLPSRRGATPGRLP RS*PRPH PRPEPGVRVGPWVHIESVR/HQDCSGRSP GQTPTCEDRAPSGKGSALGRSLGPWTL IGSGRG/RSPGKLGSPGPAKAF*RRRRA SKVAPGPLDGWPRIAQAWAREKGKHLA WGTGGSWPPSHAPGHQLGFQKQPLGN QREWGQNLGIQDL*GQVDPNRRPPPLSGP GDRHLTGKPSGREGALSQGPQGRHSPGR PQQQASSCCERSHPLPVVTHCPGVQ WASCPGWGCLARCSPPRA
4454	12505	A	536	426	634	VFCYSRTNWNKTEINRKKFGKLP SIWKL SSTLLNNQ/L/VSEENKREIKKYPDINENE DTTYQNLWNLKQC
4455	12506	A	5360	1	412	FFFFLRWSL/NSV/SQAGVQWWDL SLLQP LLPGFKQFSCLSLSSWDYGCPPRANFL HF**RQGFTMLFRLVSNS*PHDSPISASQS AGUIGVSHRARPSCLLLAYFEFVSKWK QSSTKALPCGFRMLCPVLTPEK
4456	12507	A	5361	3	884	YLSIHQVYGKEACIPCGPGSKNNQDHSV CYSDCFFYHEKENQSLHYDFSNLSSVGS LMNGPSFTSKGTKYFHFFNISLCGHEGK KMALCTNNITDFNVKEIVAGSDDYTNL VGAFVCQSTIIPSES/TGVSEQPYHNPIL ADTFIGVTVETTLKNINIKEDMFPVPTSQI PDVHFFYKSSTATTSCINGRSTAVKMRC NPTKSGAGVISVPIKCPAGTCDGCTFYFL WESAEACPLCTEHDFFEIEGACKRGFQE TLYVWNEPKWCIKGISLPEKKLATCETV DFWLKVGAGV

4457	12508	A	5362	3	2697	CSVKECLQASAKLPSAPASVSLCLLVA KVWRRRLRWQEAASFSCASGEYLEMKNQ VCSKCGEGTYSLSGSGIKFDEWDELPAGF SNIATFMDTVVGPDSRDPDGCNNSSWIP RGNYESNRDDCTVSLIYAVHLKKSgyv FFEYQYVDNNIFFEFIQNDQCQEMDTT DKWVKLTDNGEWGSHSVMLKSGTNILY WRTTGILMGSKAVKPVLVKNITIEGVAY TSECFPCKPGTFSNKPFSNQCCKIIDPF LKRFFYVAEGSSSECTERPPCTTKDYFQI HTPCDEEGKTQIMYKWIEPKICREDLTD AIRLPPSGEKKDCPPCNPGFYNNGSSSCH PCPPGTFSDDGTKECRPCPAGTEPALGFY KWWNVLPGNMKTSCFNVGNSKCDGMN GWEVAGDHIQSGAGGSDNDYLILNLHIP GFKPPTSMGTATGSELGRITFFVETLCSA DCVLYFMVDINRKSTNVVESWGGTKEK QAYTHIIFKNATFTFTWAFEN*FRVQD NRRFINDMVKIYSITATNAVDGVASSCR ACALGSEQSGSSCVPCPPGHYIEKETNQC KECPPDTYLSIHQVYGKEACPCGPGSKN NQGKKMALCTNNITDFTVKEIVAGSDDY TNLVGAFVCQSTIIPSESKGFRAALSSQSI ILADTFIGVTVETTLKNINIKEDMFPVPTS QIPDVHFFYKTIYRQIIDIKCPAGTCDGCT FYFLWESAECPLCTEHDFHEIEGACKR GFQETLYVWNEPKWCIKISLPEKKLAT CETVDFWLKVGAGVGAFVALLVALTC YFWKKNQKLEYKYSKLVMTTNSKECEL PAADSCAIMEGEDNEEEVVYSNKQSLLG KLKSLATKTAIGVFGGPWSLGYVISCQY SETRSSCIISVHAKNEILAJEEE
4458	12509	A	5363	1	1146	NFDSKRITVRNLRIREDIAKYLRNLDPN SAHYDPKTRAMRENPYANAGKNPDEVS YAGDNFVRYTGDITISMAQTQLSVSSMS SHFISAHKTFGIV*SLFSRSIQ*CSCQLTK MFRITLVFAWEA\YDKGSEVHL\QADPT KLELLYKS\FKVK\EDFKEQKESILEK YGGQEHLDAPPAELLLAQTEDYVEYSR HGTVIKGQERAVACSKYEEDVKIHNHHTH IWGSYWKEGRRGNKCCHSFFKYSYCTG EAGKEIVNSEECINEITGEESVKKPQTLN ELHQEKLKEEKKKKKKKKKKHRKSSSD SDDEKMGHVKSNAKALNA*EAIRLLHVKE TMQNDERKRPVNSMY*TSRPVEEEMEA YRMK\RQRPDDPMASFLGQ
4459	12510	A	5364	3	1589	APALKVILRYT*TDAPAIWWLDPELTG CAKPFVFTQGHVSVNRSFFPCFDTPAAK CTYSVVVKAPSGVQELMSATRSAYMEE EGVFHFHMEHPVPAYLVALVAGDLKPG DIGPTSRVWAEPCLLPATSKLSGAVEQ WLSAAERLYGPYMWGRYDIVFLPPSPFI VAMENPCLTFIISSEDEFVIDVIHEVA HSWFGNAVNTATWEEMWLSEGLATYA QRRITTETYGAFTCLETAFRLDALHRQ MKLLGEDSPVSKLQVKLEPGVNPShLRN LFTYEKGyCFVYYLSQLCGDPQRFDDFL RAYVGEYKFTSVVAQDLDSFLSFFPEL KEQSVDCRAGLEFERWLNATGPPLAEPD LSQGSSLTRPVEGLFQLWTAEPDQAAA SASAIISKWRTFQTALFLDRLLDGSPLP QEVVMSLSKCYSSLLDSMNAEIRIRWLQ IVVRNDYYSLT/FHRVRRFPGRARCHAC YTIPLYEDLCTGALKSFALEVfyQTQGRl HPNLRRAIQILSQGLGFQHRARP

4460	12511	A	5365	1	418	FMGGVNRADENIDKYRASIRGKKWYSS PLLFCFELVLQNAWQLHKTYPVDFL EFRRRVVCHYLETHGHPPEPGQKGRPQK RNIDSRYEGP*IQVDSNPQGIQTRCAEC HKNTTFRCEKCDVALHVKCSVEYHTE
4461	12512	A	5366	1	205	KKFSCGLKKIFHEKNCQST*QISLLSYFK KLQPPQLSSTTL/SQQPSTLRQNPAPAK RL*LIEGSADG
4462	12513	A	5367	1	389	CRFNAISSKITADFTVFGGFLEVHKVIL KCKWKYYYKSRIKTKGFKKTQLS/GLILH NNKT*YTSIIKTELTKYRHRMENPEIDL HRFDQMFDEGIKVIQ*GKERLFNQWCW SRLRCICLKFSITNGQ
4463	12514	A	5368	2	300	TFPNLMTNMNLQIQEAQ*IPSWKNSE/RS Q/SRHLIILKLIKGERILKEQKLITYKG CSIRLRGDFSPETTEARK*WDDIFKVLKE QVSTKNLIFSITVL
4464	12515	A	5369	199	494	
4465	12516	A	537	1190	2097	SSCLKILNITLAKSLLL/CLDISVCYLLD TGICYCLLDISVCYCLLDISICYCLLDTSV CYCLLDISVCYCLLDNISICYLLDTGICYC LLDISVCYCLLDISVCYCLLDISVCYCLL DISVCYLLDISVCYCLLDISVCCCLLDIS VCYCLLDISVCYLLDISICYCLLDISVCY CLLDISVCYCLLDISICYCLLDISVCYCLL DISVCNCLLDISFCYLLDISVCYCLLDIS VCYCLLDISVCYLLDISVCYCLLDISVC YCLLDISVCYLLDNSVCYCLLDISICCC LLDISH
4466	12517	A	5370	256	514	
4467	12518	A	5371	2	1340	SLDLGGISTVVVNGYDVVKECLVHQSEI FADRPCPLFMKMTKMGGLLKISRYGR GWVDHRRRLAVNSFRYFGYGQKSFSKIL /EKETKFFNGCYWKHTKVGPFD*TV**R MLFSNITNLHFWEERFHFMQGHRFRH MDWSYFRWKMWNAASASVFLYNAFP W/IWA/FLPFGKHQQLFRK/WTAVVYDFL SRLIEKASVNRKPQLPQHFDVAYLDEMD QKNDPSSSTFSKENLIFSVGELIAGTETT TNVLRWAILFMALYPNIQGVQKEIDLI MGPNGKPSLGR/RNAKCPYTEAVLHEVL RFIGNIVPLGIFHATSEASLRGYSIPKGT TMITKP*FLYHLGWKKVPGEDPQKVFP ERFPGTSSGIFWPQEGKLWVFFPLGRRH CPWENTLARMEMVLFFSSIASEVSFAFS HMN*FQI*SPRLGMTLQPPYLICAERR
4468	12519	A	5372	135	273	
4469	12520	A	5373	1	344	LNTLPEVPFTPLSCLPSLSLSS*LAPSPFICI CYAIVP/PPFLLPSDLADPSSHPGLPFLFP PHSPRHAPSAPPSKKKKKKKKKKKTTA PVQASLGTSSLYPLGGSETGPTWS
4470	12521	A	5374	1	724	GRRGRGRAGSRAGRRGGAQAAALVNR GGGPIRNYSDVAGGAAGGGRNRNPAP YSRPKQLPDKWQHDLFDSGFGGG/AAG VETGGKLLVSNLDFGVSDADIQELFAE FGER*RRAAVHYDRSGRSLGTADVHFER KADALKAMKQYNGVPLDGRPMNIQL VTSQIDAQRRPAQSVNRGGMTRNRGA GGFGGWVDGTRKGTARGGARGRGRGA GRNSKQQLSAEELDAQLDAYNARMDDTS
4471	12522	A	5375	37	331	GLLCQASGPQAPGWAPLGRRGQGSNP LPVPPRPVPA/APGHTCHAL/GKIPF*VPL PLQ*GPPETHLREPPPGPCPPS/PVPSPYQ GFLQPGGRAGGDRD

4472	12523	A	5376	1	385	FFFFFFFFETETCSVA*AGVQWRDL* LQPPPPGFKRFLCLSRPSSWDYRCTSPYLAH F*FLVETGFHHVQGAGLELLTSSDPPISA SQSAGITGVSHCTWPKLTSTLMNVFPL NIILLYLVILAK
4473	12524	A	5377	21	352	PTHPWPPTVLEATAPGSEYFFF*DAVLLS SRRLECSG/SISAHCDLHLPSSSDSPSSVP QVAWIIGVRHHVQLIFVFLVEMGRHVD QAGLK/IA*PQVIHPPRPHKVLGLQV
4474	12525	A	5378	2	545	TCLGFFQMFFLGLSIFVCYILLKFDCVFIF SSNLGLSIFVCYILLKFDCVFIFSSQLPFFT FYMDYSNPLGLSMSSLRIS*KTF*MYG*V LYFFF*KRNSQCFFPNRDYFWIVCSSSV DLFCTLFFTSCHPQQPSCSPPPGNKGPA PLPTVTLEALKMMMVFIFGLSSRJRGRS WKSP
4475	12526	A	5379	545	1462	GYFPCFIPVATS*QSIGVVNF*LFEYFVY IYIFEGFWGGLICLKVSSVCLFQVYFSFA KIIIEPPGFKTILPPSTLVNNWELTSLHQP K/RPANFVIFGKRQGFHVGPGPLNSGPHA IRPASASQSTGITGVSHCACALNFITEP
4476	12527	A	538	163	372	IRQRKAKLVVLA FNRRGLRKPDI/FYYAG VGKIVKKKYSGFFIELVTTCGKNYLMCA LAVIDPRDSNIIRS
4477	12528	A	5380	2	243	GFKQFSCLSHPSSWDYRCAPPHPTNF*F LVEPGFHHVQGAGLELPTSGDLPALASQ SAGITGVSHHPWPMALNSKNVR
4478	12529	A	5381	1	328	SPETGSCSGAQAGVQWHDGLSLQP*LGL K*SSYLSLLSNWDYRCA/PPRLANFLFFV QAGSCHLAQAGLELLSSCHLPALVSQNA GITGVSHHARAGSCMEENTSLWLT
4479	12530	A	5382	2568	3052	RGTEGRRVKSSKAGFFCFVLCFVLRWS LTLAQAGVQRHDLSSLQPPPTFK*FSC LSLPSSWDYRRPPRS*F/SFVFLVETGF HQVGQAGLELLTSGDPPASASQAGITG VSHHAQPOLDLEPPVCGQORDMALLLE RLPETVTCFLFPSELRRAR
4480	12531	A	5383	2	306	FFEMESCSAAQAGVQWHNPSSLQPLPG FKQFSCLSLPSSWDYRRAPPHANFEFL VDARFYHVGQAGLELLTSSDLLASAS*S AGITGMSHHGWP*ATF
4481	12532	A	5384	141	414	IRITEGGAQASVVFKTPQV/WLGTVAHTC SPSTLRSRGGWIT*VQEFKTSQSNRNQRG CNLVWSLKLTSILLTFELDSIRQEEGKLV RRWGR
4482	12533	A	5385	2	287	GRVGNKKFGGRISLC/QPGWSAVTQLQ LIVTLNSWAERFSQDLPS*DYRCTCLA NFLTFCKDECLAMLLRLVLSWPQGIPL PQLKVLQV
4483	12534	A	5386	663	1014	ILKHYPSSQISSILQRKHTRQLSASLITNAK VFFQASRFNVSSHILALLQENIFYFNTKP VICKPG/CVIRITF*KL*IASQVRWLTPVIP ALWEAEAGRSRGQGIKTILANTVKPRLY
4484	12535	A	5387	3	208	EDVNRWRDIPSPWIGRVIRVRMSVL/PNP INNTYINTEFLILI*Y*YRNTSIPIKISGRFF VLLRENE
4485	12536	A	5388	190	261	ISIF/CFFKTDSSCVAQAGVQ**NLGSLQ/P CNLQPLPPGFK*FSCLSLLSNWDYRCAPP /HPNFCISRDGISP*LSILPTTFIKVARKI LI

4486	12537	A	5389	31	1431	RETRSCWAHYHAESSKHQKAKLKDSRK ARRSIELIGPGSSQKGGDICSILHLSKLG LCYSKTGNMGGWEGGMQLRVSSNSM GKSSRERAAADLPQGSCHWELPGRINT RISLKPRHVWNLSSVLCQVVKVKS MFHMPITSAMQGDRLGICVTQFDPKLE RGLVCAPESLHTVHAALISVEKIPYFRGP LQTKAKFHITVGHETVMGRLMFFSPAPD NFDQEPILDSFNFSQEYLFQEYLSKDLT PAVTDNDEADKKAGQATEGHCPRQW ALVEFEKPV/YLPSAVPGDWLQARCGHS PNTCRLAFHGQSCSTG*RTGT/NADSFLP RLKVYKLKHKHGLVERAMDDYSVIGRS LFKKETNIQLFVGLKVHLSTGELGIIDSAF GQSGKFKIHIPGGLSPESKKDPDTPPSKT GPGWPVGGQPGRRRSPSGANPHKMGW LTRPFKRYVFDTHKRMVQSP
4487	12538	A	539	995	1192	IILGNLTACSFYTSSLNAVWLIKSAMLQL YFIFFFGDRPSLCHPGWSAVVQSLLTAT STSWAQAE
4488	12539	A	5390	1	421	FFFW*GTESQLLPQCSGAITAHCSL*LPG SSEPPTSAS*VPETIGTY/RHAWLFFFN FFVETGSHYVAQAGFEPLGSNDPPPPPP KLLGITGMRHHSRPELLPLTVPMWSWESQ DGETEDFCAMETWKVNITCLAQTPRL
4489	12540	A	5391	1105	1497	LFRTSLLVIAFLPKKNFFF*HYA*SYNVH PNTARKIKPEFRAVRVSFLLSERMSNIFF FFDTEFHSVTRLECTGT*STHCDPRLP GFEQILPASASQSSWDSACATHARLIFV FLVETGFLHVQAG
4490	12541	A	5392	109	695	LLLIPSAVTSYPPKDLPWGGMILSKPPLL GSMLANNCIVAGGCS*SSLPS*LSSWRV GPQHLPRHARPPHQVQYIISQDGVQHL LPQEYVVVPEGHHIQGQKGRITHIQYEQ GAPFLQESQIYVVPSPGQQLVTQAQLE AAAHSAVTAVADAAMAQAPGPVWLQD EDKCPKHNSNKLQHPRASKYDVITPGR
4491	12542	A	5393	1	405	
4492	12543	A	5394	203	458	
4493	12544	A	5395	2	1185	LILNKKSRTRRSFRRHGSPSHGPFAPWRP SRLAEPGELG*REREGYNPPISGENLIG LSRARRPHNAIFVNFEEDEVPKQPLEAA AQTWRRVCTNPVDRKVEEELRKASPA LRLAPLFDIRPIWSRNAVKANITVHPNRF KAWLPFIAYMNTGPWRSWIRFGYDP RKNPDAKDL/YQVLDFAIRCGMKQGYA PSDLPVKAKRSTYNYSLPITVKKTSQ VTMHDLEAWPWPRGRSGARKPASSKY KLKVSLLQTLRDSVYIFREGALPPYRQM FYQLCDLNVEELQKIHNRNDGAEDFLA QERGWGGCLPQGPDEF/RGDTMSPMIR ETIGSKRPALFSSSAKADGGKEQLTYES GEDEEDEVEEEEEEDFKPSDGENEMG NQNF
4494	12545	C	5396	95	295	MSTIKAPXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXSSLRIILFQNIYLYWDKIT FLYCEHTVGAQ*
4495	12546	C	5397	262	390	
4496	12547	C	5398	118	132	
4497	12548	A	5399	109	559	QFLHRLVHDSGEVWMKLVE**NTLLAK MVSISWPRDLPASASQSAGITGLIGALVL SVGIYAEVER/HEI*NP*KCLPGSSHHP PGRRHVHGLLHWCAGVPP*QPGKH
4498	12549	A	540	77	199	SKSRPIASNKIEAIKSLPAKKPAGPDGFAT EFYQTFKEEL

4499	12550	A	5400	1	362	FFFFLRRSL/SSVPQAGVQ*HDLSSLQPP/ PPGFTPFSCSLPSSWDYRCPPPPAKFFL YF**RRGFTMLARMVVIS*PRDPPASASQ SAGITGVSHRARPPPPQFFIQLPLYNIHTL EGR
4500	12551	A	5401	2	462	NPPTSAS*VAGTTGACYHTRLILVCRDR VSPCCP/VLVFFFF*DRVAQAGVQWHG LGSTCQPSCPPGFKRFLLPSPALSPSS WEYRHPPPPANFFCIVETGFTVLAR MVIS*PRHLPALASQSAGITGLSHCARP VDSFLATSIY
4501	12552	A	5402	3	352	SSRPGSCRRGAVRAAIRYVRLRAVPSGG GEPPSGAPLQPSWK*AFARPGMLRCSPM SQAPSRSAAVLFEPLAEWMLHCA*QDEV RLGGH*GRRGPLLLDRSRA*RESPAEVRP ARE
4502	12553	A	5403	3	286	SVAQVGMHGHSLGSLQPLPGLK*SSHL NLPSSWDYRHAPPHLANFCIFFVETGFR HASQAGLKLSSSNWPTLASQSVVITGV SHRAQPC*TF
4503	12554	A	5404	73	542	VLIFFFFLKLSL/DSVA*AGVQWCNLSSL QPPSPGFK*FSCSLSSWDYRCVPPSPA NFFIFLVETGFTVLARMVIS*PHDPPTL ASQSVGITGMSHCPWTDLIF**CKRDTLC IPMSLS**FKVPKGNLIWKLLGKFGGLP LGIONAYFWIV
4504	12555	A	5405	1	397	EMESSSVTQA*VQWHDALLQPPPPRFN RFSCSLSSWDYRCPLSPANFCIFSRD/ MGFIVLARLVLS*PNDLPASASQSAGIT SVTHRIWSKIFFRVDNDHYIILFSSMELN VPTIVLCYHPQSSNMYS
4505	12556	A	5406	72	243	EPMTQVSMFSLRQPMKTTGMRIAMQE KVTQNTQSS*KIFRFPYSLIGVSLVISI
4506	12557	A	5407	34	420	MLYSHDPELS*QVLTALYAVPPFPVPV DFL*I*FPSALVSIGGSRL/PVLSHWFLDL RV\FH*FEKAHL*KLCGNP/WLSALLSTF KVM*ERLVDQ*LSMAKTE*EPMTQVS MFSCGRVEEFRHHP
4507	12558	A	5408	3	316	FFNFNRQGLCHPSWSAVTQSRLTVASIF R/VQGSSHLSSLGSW/DARHVPPCLANF* FFCRD/RGLVMLPMSVSNWAQAILPPW LPSIGITGVSHHVWLASLFVF
4508	12559	A	5409	905	1291	RGADTCLGFQVSADLHHLFSFLFCSVAQ AGVQWRNLGSLQPPPGFKLFSCSLSS WDYRHAPP/RPG*FFVFLVETGFTRVGQ AGL*LLTSGDPPASASQTA/RGL*GMSH LASPIYLDYFK*NFNKP
4509	12560	A	541	212	322	
4510	12561	A	5410	2	308	FLRHNLAVTQPGAQWRLLSSLQPLPPEL KPSSHFLPSSWEYRCEPPHPANF*FLVE TGFHHVAQAGLEFLASSDPPTSAFLNAG VTGVNHSAWLCFSYLL
4511	12562	A	5411	3	368	HRGESVWNICRWGTLR*GKIGKMTRAH CLEFIGALIVSITSPAPFEAPKWKNLDL *TLTHGRPVSVLLAKKCDHG/KDECRN SSLKMGQIYMEHSFVG*IETSAKENVNF DEASRCLDAK
4512	12563	A	5412	73	380	GQALQWCVSVMCSCIHSHPCV*VLWV CVCLCISMCMYSYACVLGYTKFGVCTE KNKQNCCTGNRSTQGLPLNRHTGSFRF WLDHFPLASPKGTLRSLSP
4513	12564	A	5413	1	400	NSEGAAWIQPPAGEPTWQSGGTQRAG AMP PGDYS*SQGHPFLH/RAPPLTRNR RIFLRRAPSPVLEDPRKPPSRGQQL*DA LHHVLVAQLREGMLGQPRPHPPKPIK *SQHA*QLPAGEPEVGPAGDR



4514	12565	A	5414	1	895	LRRARPRGWAGREAGPHPH*LRCRSSSA ALRPAPFTRPGTGETGLDRTEGRDQTSV NSAT/RLPNTPSRISAGSSLOTQRLPGS SPQQENRPGDKAEAPKGQE/RMPPGDYF VIPRTPLSPPAPPPLTRNRRIFLRRAPSPV LERPPEASKQRTATPLRRTAPCASGAAQ RGDVSGRKGVCCKAGEQG*PPNNPRLRR SQAHARKRRRGDKFGVRPLQYCAF*DF WRRLSWQNPPFKATLPLLR*PLPPPLQA GTAPSPSSSQAN*MITARVTVTGWRAG SGTGSKGP*EPGRASFPS
4515	12566	A	5415	20	481	PTDRPGEHSKTPSLQKCKK*KLACSGT CL*S*ILGRLRQKDHLSPGVRYNEL*SC HCTPSWVAE*GPVSK*IIQSPPRKE*S/LY NEKNPSN*HIVDSGEWFSFVLGADRWG AGVLYQVRVRLSQMCNERGHKHCIPITI YLPYKPLCLPAL
4516	12567	A	5416	236	820	RRPQQAGKMKGSRIELGDVTPHNLFNCL ILCGVTSPNIKQLKRLNQVIFVSYNDKF YKDVLEVGETKLAYFNDAVGA VCCR VDHSQNQKRLYIMDTRDVWAPYRSLGI RELKC*IMCLKHLLKKMVLFDNIFLHVQI SNESAIIDFYRKFGFEIAPKKNYKRIEPA DAHVLQKNLKVPSGQNAVQKTDN
4517	12568	A	5417	15	209	KASRKMQIETTLRYLSPMRLAKMQML INTSCW/RKSQETRTLIC*W*EGKMVQPL SKGIWPYLIQ
4518	12569	A	5418	1	498	VQTRQLVTSPSPMSSD/EQSSSPQCTV PSKLLVDPLQHEFSKCGENDNNIP/TPSNS NTPLKHSASFISATGTTEESRVPQIKNGS VVSLQSPGSRSSSAGGTSAVEVKVEPETS SDEHPVQCQENSDEAKAPQTPSALLGQK SNTDGLQKPSNEGVIKATK
4519	12570	A	5419	8	299	
4520	12571	A	542	1	518	MAVARLAAVA AAVPCRSWGWAAVPP GPHRGLSVLLARIPQAPRWLPDLPNLA YKKLKGKSPGIIFIPGYLSYMGTKALAI EEFCKSLGHACIRFDYSGVGSSDGNSEES TLGKWRK\NVLSHDDLVDGPQILVGSSL GGWMLHAAIARPEKVVALIGVATRCR YLSDKV
4521	12572	A	5420	1	3788	MMRLEGAEPGQLQNIDEEVISSACRLV CEWAQKVLSQPFDTVLELARFLVKSHYI GTKSMAALTVM AAAPAGMKGITQPSAF IPTAESNSFQPVKTLSPIDAKQQLQRKI QKKQEQELQSPLPGESAAKKSESATSN GVTNLPNGNPSILSPQIGIVAAVPSPI VQTRQLVTSPSPMS/CF*QSSSPQCTG GHSAAVCETGKDSPESSQSWWGSF CPAPLPSDLTQTSEHQCTPIRSPTTVL
4522	12573	A	5421	288	668	VEKRQFLNSTADPECIRYPLTYFVLGQSL ALVTKAGVQWRNLSSLQPPPEFKRFSC LSLLSSWDERHAPPCPS*F/CVFFLVKTG FHRVSDGLDLLTSNDPPTSASQSAGITG VTLAPSLFVLIH
4523	12574	A	5422	3	288	STFFFFFK*NLARLSRLECHGTISAHCNFR LLGSSDPALASQVA\GLRGTCCHT*LIF VPTVETGFRHVQAGLELLA\WVICPP*P PKVLRQA
4524	12575	A	5423	1	781	MVHITGLCADNLQYQAGARIISVPEEDN SKSLENIFGGIIEENFPSLARDLDIQIEAQ GTPGKCITKRSSPRHIVIRLFKVKTERIL RAVRQKHQVTYRGKPIRLTADFSEETLR ARRDWGHIFSFLKQNDYQPRILYAAKLS IYEGKIQSYSDKQMLREFTITNGKLLKG AVSLVVALNR*NKSWKHITHQNRSLK HKSHRTYKTKIPLHDEYNDRSALRPAS HTAYGSMLMILKSSLTLFKHGDEVVGRR AK

4525	12576	A	5424	2	392	KTKIIQMANKHRKRHVQSQ**VRLMQKKI IMIHYYIPQWLKTSKSDMIKCCSGYGTTE IFTHYLWECKLLHLLWRMVWLILKFK TDTPHDPAIPLLGTYPAECCTCTPKAHT AALSIIVPSWEQPKYPQ
4526	12577	A	5425	1	181	
4527	12578	A	5426	1	2162	MALFVRLALALALALGPAATLAGPAKS PYQLVLQHSRLRGRQHGPNCVAVQKVI GTNRKYFTNCKQWYQKICGKSTALGT ADVKGVSLSLAVSVSDLGGEQMRKLRPR EMMKLAEDGPAALPLSNLYETLGVVGS TTTQLYTDRTKLRPEME/GGPGSFTIFA PSNEAIWAPLPAEVAGTPLVSNVNIELL NALRYHMGVRRVLTDELKHGMLTSM YQNSNIQIHHPMGIPTVNCARLLKADH HATNGVVHLIDKVISTITNIIQIIEIDTF ETLRLAIVAASGLNTMLEGNGQYTLLAP TNEAFEKIPSETLNRILGDPEALRDLLNN HIL/RSQAMCAESIVAGLSVETLEGTTLE VGCSGDMLTNGKAHSNKDILATNGVVIH VYIDELLIPD\SAKTLFELAAESDVSTANDL FRQAGLGNVHLSGSEARLTLLGPLNSVFA KDGPNPID\ALTRDLLWNHINKDQLASK YL YHGQTLETGGKKLRVYVYRNSLCIE NSCIAAHDKRGYGTFTMDRVLVTPP MGTVMDVLKGDNRFSMLVAAIQSAGLT VETLNREGVYTVFAPTNEAFRALPPRERS RLLGDAKELANILKYHIGDEILVSGGIGA LVRLKSLQGDKLVSAA*KTNVVSVNKE PVAEPDIMATNGVIVHVTNVLQPPAN RPQEARGLADFAVEIFKQAFSVFPGAS QRSVRLAPVYQKYL\ERMKH
4528	12579	A	5427	1	410	FFFLKRRDLAVAQTVGVQGDHGSQLPQ IPGRRQSSDLSFLNS*DRHILSCSATFTS F*RSLSAAQAGLEILATSNPPA*ASQGPFI V*GVSHHTWQKATFCICLPANNILSCLNIY SFFYHKTNHNFMKTNHKQI
4529	12580	A	5428	3	404	RLFYNFTIEMRFSLVQGC/INSLG*SDL LVFASASAGITGVSYPHALASIVFVCVC V*WGSALVAQAGVQ*RNLSLQPLPPEF KQFSFLSLPSSWIYRHPPLSFYLPKLKS CGLCTGIWAWRLFIFIGS
4530	12581	A	5429	2	240	TRSAVV*SQLTAALTSVLVKQLSQLSLPR SWDYTHVPPCLSIFYFL*R*GLPMLPGLV SNSWTQAIPLPQPKVLGLQA
4531	12582	A	543	3	604	VMSWAFTFIHSLTDSPRATSSPPSPIHE GDQDIIVLKFLKVLGGKNSGAWGRNGR PQGRRRGARVFLRLNVGGCIYTARRESLC RFKDSMLASMFSGRFLKTDDESACVID RDGRFLFKYLLDYLHGEVQIPTDEQTRIAL QEEADYFGIPYPYSLDHLANEMETY/CF KALTDFCDSYGLVCNKPTVWVLHYLNT SGAS
4532	12583	A	5430	3	468	RWSFTLVAQAGVQRVILAHQAQPPPGFK RFSCSLPSS/WDYRLAPRLANF*FLVE TGFLHVGQAGLELPTSGDPPASASQSARI IGVPLCPGISRIFVQQMALEDSDISLRL WFLSRHANLQCVTLWACQLLPCGTWR ARETKANTLPAVP
4533	12584	B	5431	151	344	YENESALNLYETCKVRTVKAGTLEKLVE HLVPAFQGSLSYVTIFLCTYRAFTTTQQ VLDLLFKS*
4534	12585	A	5432	1	439	PSASSQAGGFWSQSLFKQESSGFVRTS AESVLRQESLRGVLGVLELYWRGSEVC GSRQSLYGLSSGRGILQGPQEH*SPPLCP SPPELKIPENANVFIAMNSTANYDFVLK KRTFTKGVKVKGASFTLPRMKQKGLK IAKGIF

4535	12586	A	5433	77	444	GLGVPSELQEIRVLPLTVCPSSVPPQYEN ESALNLYETCKVRTVKAGTLEKLVEHLV PAFQGS DLSYVTIFLCTYRAFSASQQVLD LLFKR*A*ALHCTGCTRGPRPHPLAAG LGNAESPL
4536	12587	A	5434	1	3190	MVQRMWAEAAAGPAGGAEPFLPGSRRSR SVWD AVRLEVGVPDSCPVLHSTQLDP DLPRPEVGGGRGLLQKSASRVGSGGCR APSNSRDHGWGFAPLNTVPGPAVTCAA AAQVDLFLRHCPCLHRWPVPYFTQFPPR ARSASLAFTMQAVGLCSRQSVPYLGNRL HRCIPCTVARQALDVPAPGCRALSSQSST QEIGEELINGVIYSISLRKVQLHPAGNKG QRWLG YENESALNLYETCKVRTVKAGT LEK
4537	12588	A	5435	1	435	EKINKIRWLPQQNAAHFLGTNDKAIKL WKISERDKKAEGYNLKDDEGRRLDPFRI TALRVPIPKPMDLMVEASPRRIFANAHT YHINSISVNSDHETPNIVDIKPANMEELT EVITAAEFHHPHCN VFVYSSSKGTIRLCD MR
4538	12589	A	5436	204	397	VPILKPMGSYG*EASPRRIFANAHTYH NSISVNSDHETYL SADDLRINLWHLEIT DRSFNIV
4539	12590	A	5437	1	1463	PLRSWLRLPDSQADIISTVEFNYSDDL AT/GDKGGRVVIFQREQEVLQPRRPA P*SVSSFLSTSCREVWQGCFSLPFRERIK /GRPHSRGEYNVYS/TAQSHGTGGFDYL KSLEIEEKINKIRWLPQQNAAHFLSTND KTIKLWKISERDKRAEGYNLKDDEGRRL DPFRITALRVPIPKPMDLMVEASPRRIFA NAHTYHINSISVNSDHETYL SAR*PGGIN LWHLGNHR*EAFNIVDIKPANMEELTE VITAAEFHHPHCN VFVYSSSKGTIRLCD MRSSALCDRHS/KSFFEEPDPK/SSRSFF SVEIHSISDVKFISHSGRYMMTRGLPVR WKVWGPSTWEEAGPVGGPTRVHEYLAR TKL\CSLAYENDCIFDKFECCWNGSDSA IMTGSYNFFRMFDRDTRRDVTLAEASR ESSKPRASLKPRKVCTGGKRRKDEISVD SLDFNKKILHTAWHPVGCYLPWLATN INLYIFQDKIN
4540	12591	A	5438	3	392	FCACFIGSKTPASCRAQGRPPGEFSPGSP SGPAGGKGVLEKEPSEM/PP/PEAGERK LERKTVPGRGAEYGPPLRLSYPAVNS HPLPSSVNGGDSNNSSQLPESHCPFFSP KEGPRKGEVPC LHATRA
4541	12592	A	5439	1	297	SLLGPPEPTTWT/PAPQDR*HGPC*GR*R KRRPSL*T*QWELASPP/REPMFVPKKE VAIQPLQEEASVGPTPELLSGSCRSPISGI SILGNCPSLAPLT
4542	12593	A	544	3	533	AEGDQDIIVLKFLKVLGGKNSGAWGRN GRPQGRRRGARVFLRLNVGGCIYTARRE SLCRFKDYNVASMFSGRFPLQTDSEGAC VIDRDGRLFKYLLHYPSWRSSEFPQMRD TRGRPTGKRADYFGIPYPYSLSDHLANE METYSLRSNIELKKALTD FCD SYGLVCN KPTVWVLHYP
4543	12594	A	5440	3	11	HELILSPGPTQGQTPDEAGVIIRVLKNVP DLAILNSKDALDPRQPGYQPPNPHGPSS PPAAPRPRGA*GNPQLENASRSDRNPSQ GLRTRIRRPETPCGPPSPAGSSPAPPPS DVPPAFHSSGPPEPTTWT/PAPQDR*HGP *GDKRGAPGVAGEDPDQP*GTS

4544	12595	A	5443	1	702	MVAASAAIKFTNMSLAIAIAGEHVEFA LIPVTAVKYTYTVIPALVMTWCLSYIER WVDSITPAVTKNFLKPLMLIVLIAAPLAIL LIGPIGIWIGSAISALVYTIHGYLGWLSVA IMGALWPLL VMTGMHRVFTPTIIQTIAET GKEGMVMPSEIGANLSLGGSSLAVAWK TKNPELHLDTPHTESPTPHDSNSHRP/PT AGVYNRSKAKSTDKDNDQTRWGNWR WSQRKYCLPL
4545	12596	A	5444	195	524	RALTTPRHLPCTSQVASCNLCCLFLADLD TLAHTESPTPHDSNSHRP/PTAGVYNRSK AKSTDKDNDQTRWGNWRWSQRKYCLP LIVLSFFQTKQNTGTGFRNFLSPFLMYV
4546	12597	A	5445	2	884	VPQFKPKLHQENGPGRLARCDHQQAQP TRETWLQDRDREFQSQTFLLRSRV*LV LQLQESQHSRLERLREGQRLVEREQARMR AQQSLLGHWKHGRQSLPAVLLPGGPE VMELNRSESLCHENSFFINEALVQMSFN TFTKLNPVSIHQDATYPTTQSHSDLVRS EHQVDLKVDPSPQSNVSHKLWTAAGSG HQILPFHESSKDSCKNDLDTSHTESPTPH DSNSHRP/PTAGVYNRSKAKSTDKDNDQ TRWGNWRWSQRKYCLPLIVLSFFQTKQ NTGTGFRNFLSPFLMYV
4547	12598	A	5446	269	483	
4548	12599	C	5447	5465	5719	MRLGKTHSTAGAWKMGLLRQADSTRG EKRGKKAAIICVKSPPGYQVAVWKY HSSLGVFEFKKTCVSMGRHDTEKKMS WERP*
4549	12600	A	5448	57	102	
4550	12601	A	5449	3	287	RALYYFL*FALFGLT*M*LVS*KLQIIEYE KKQTLGQNDTGFCIDGTANTFRVMFKEP IEILPNVCYTACATLKVRVMHYVPDGFL LNVAECVF
4551	12602	A	545	1492	1672	KQWHESHDPDYDRSPSQTGEGDEPCSWH RLFAQGDK*YEATACHRNLDWQKATDI SCNTNG
4552	12603	A	5450	1	594	
4553	12604	A	5451	1	768	SVEFPCRLSGAVVRWAEACQRQQLPV TFGNKQKVLGKALSLIRFPLMTIEEFAAG PAQSGILSDREVVNLFHFTVNPKEPRVEY IDRPRCCLRGKECCINRFQQVESRWSYS GTSDRIRFTANRRTSIVGLGLYGSVIHGP TDY\QVNIQIIEYEKKQTLG\QNDTGFS CDGTANTFRVMFKEPIELPNVCYTACATLA KGPDSHYGHKRI*RKVVHGGHLLASKD CFFLF*F/ALGINNGTSIEDGQIPEIFYT
4554	12605	A	546	138	257	IFLLYLKNKVQNK*EIKQHFLGKIMSRDN NTYLTWGTEN
4555	12606	A	5460	69	418	LKSKLSDYKINL/QKSVTFVYTNSEN*SEK/ QFKKEIQFTNSCKDN*KNYLGINVIKEVK /DLYN/ENY*ILIKNEKNPKK/WRAIPCSW FGRINIVNKFILPKVGYRSNAIPMKMPV TSRTRG
4556	12607	A	5461	2	216	YLFYLLPRLKCSGVITAHCSLYLPKSKY PPHSAS*VAGTTGPATMSS*YF*FFVETR FFLCSPGWS*GSSSDPSASASQIVKIGVS HCT\CPNRNFRNLAQSLHFTGEETVPRKK GDLPWVYRQTQG*IPGPHRCQVLA*PK DFLLSPHIYVSTSILWPPA*AQAEVQWC DHSSLQPLPPRFKISSPLSLSSWNHRSCH HVQLIFLIFCRDKVLPVFPRLVLRLEQ
4557	12608	A	5462	59	403	KRGFNFGAPDKREWGEGF*LPKPWLPG* NNFSGQTLRRSGD*RKTPHGGVNLVF*E KTGFSNLGRGGLKPPPSGNTPAWPPKGV GITGGASSPPVFCFLGFCENTNLRAKKK FI
4558	12609	A	5463	1	242	

4559	12610	A	5464	15	276	ASVTQAGVQWHNLGSLQPPPRFKQFSC LSLPSSWDYRRPPPCPTNLFLLVARMV SIS*PHDPPASASRSAEITGVNHHARPGLF L
4560	12611	A	5465	2	309	EQKFNKQKGRRALRCRGGSLGLSCSK DVKVSFFSVARLQCSGLLAHCNLHLPGL SDSPASAS*VVGTPGQQRHHAQLGFVFLV EMGFHHVGPVMVFDLLTSG
4561	12612	A	5466	1	1209	GGIPALDKNVAELTVMDVYDILSLVGHE VERVIDQHGCIAIARLMPKVVRVLEILE VLVSRHHVAPELDELRELAFLRVRVM DLIEKERKHQKELELVEDVWRGEAODL LSQIAQLQEENKQLMTNLSHKDVNFSEE EFQKHEGMSEERERQVMKKLKEVVDKQ RDEIRAKDRELGLKNEDEALQQQOTRL MKINHDLRHRVTVEAQGKALIEQKVE LEADLQTKEQEMGSLRAELGKLRERLQ GEHSQNGEEEPETEPVGEESISDAEKVA MDLKDPNRPFTLQELRDVLHERNELKS KVFLLEELGLL*E*RNNGRGKPNTPPTH RPPEDGPPSRESGIKATCLASFFPEVKKR LGQTHRGNVHIQGVPLDKLGKHTAMT GYTEQRTGSPCSIC
4562	12613	A	5467	1	388	FKDPEAVRALTCTLLREDFGLSIDIPLERL IPTVPLRLNYIHWVEDLIGHQDSDKSTLR RGIDIGTGASCIYPLLGLATLNGWYFLATE VDDMCFNYAKKNVEQNNLSDLIKVVKV PQKTLLMDALKGSI*V*SMTFCMACNPPF FANQIGSQVE*YSRNP RP RPSSVNTGGI TEIMAEGGELEFVKRIIHDLSQLKKRLRI DMAALLIGVCSEVSGRKDWIQQAPRW YSCMLGKKCSLAPLKEELRIQGVPKVTY TEFCQGRIMRWALAWSFYDDVTVPVHE GRLAVGGVTSDSQNKGSASPPSKRRKLE KPRKPITFVVLASVMKELSLKASPLRSET AEGIVVVTWIEKILTDLKVASINEFPVEK RKSAFS*RP*KTPGFI*GERKESV*DSDKS TLRRGIDIGTGASCIYPLLGLATLNGWYFL ATEVDDMCFNYAKKNVEQNNLSDLIKV VKVPQKTLLMDALKGSI
4563	12614	A	5468	72	680	LEEP RPQSLEGHTEGERAALPGKAKVVE GRVADDGVPGQPAWPGAPPHTAAFPV HALGSTRASQQGSLGDC*AA CR*Q*KAP *VPKQGT*QERSSTK/PRAVPSGHWAGG SGCRCSE*RAALG*TTEPQQSGELPGPPW PLEGAHPLSAETGSCVPPRAFSGQKQ PRGPG*AAEGPHGDFPQTGDRHCPPSSTE PSGMTGR
4564	12615	A	5469	259	373	
4565	12616	A	547	5	960	PTFSRAVATMFSRAGVAGLSAWTLQPO WIQVRNMATLKDITRRLKSIKNIQKITKS MKMVAAAKYARAERELKPARIYGLGSL ALYEKADIKGPEDKKKHLIGVSSDRGL CGAIHSSIAKQMKSEVATLTAAGKEVML VGIGDKIRGILYRTHSDQFLVAFKEVGRK PPTFGDASVIALELLNSGYEFDEGSIIFNK FRSVISYKTEEKPIFSLNTVASC*QHGV YDDIDADVAKITQEYNLANIYYSLKE STTSEQSAIRMTAMDNASKNASSEMIDKL TLTFNRTRQAVITKELIEISGAASSVKKE NSAS
4566	12617	A	5470	1	336	

4567	12618	A	5471	1	1396	GAHAPHPNVMPASMGSAVNDALKRDK DAIYGHPLFLLALVFEKCELATCTPREP GVAGGDVCSDFSFNEDIAVFAKQVRAE KPLFSSNPELDNLMQAIQVLRFHLLLELE KGHELCDNFCHRYISCLKGKMPIDLVID ERDGSSKSDHEELSGSSTNLADHNPSSW RDHDDATSTHSAGTPGPSSGGHASQSGD NSSEQGDGLDNSVASPGTGDDDDPDKD KKRQKKRGILPIVFPNIMRAWLQHLTH PYPSEEQNIQLAHDGTGLTIFQVNNWFN ARIGIVQPMIDQSNRAGFLLDPSVSQGAA YSPEGQPMGSFVLDGQQHMGVIRPAGTY EWDGA*IWAWMGNGTTC*PSSC*RHSQ SKGEVCRAWPGDYVSQGGPMGMSMAQ PSYTPPQMTPHPTQLRHGTPNAFHILPSL PHHPGLD*LHGGTPYPTWD*LC*AQSPT MLNSVDPNVGGQVMDIHAQ
4568	12619	A	5472	3	862	TMRPDIDNSQAAHQPPGRLPNSRKLKKT RRQMCCVQTKKRIARLPCCRNTPPTAR SHPGRDCAKPN*SLRSPGGDCH*QGNT TWRMPMAR*LSGDSESGRSPVRTIICHQP SRSQSPVDRLQQLPASQSTQLPCSSSPQ ETTQSRPMPPEARLIVNKNAGETLLQR SARLGYEGSVLYCLENKICDVNHRDNA GYCALHEACARGWLKFVRHLLLEYGAD VNCSAQDGTPLHDAVENDHLEIVRLLL SYGADPTLATYSGRTIMKMTHESELMEKF LTDLFK
4569	12620	A	5473	1	444	KLLRWLRQENCLNLGGGSCSELKSHHC TPPWMIEGDSI*KKQNKTKTRKRKPQGS HS/TLGGPDWV*QNCVSVQVLPISHFPL LQDILPPLPYLGANGQAGEQATDGH*/R TTTESHRASVGCRIPLWLCQRLALALSFF LCEMRTP
4570	12621	A	5474	2	330	EMSFAVQAQGVQRHNLGSLPLPPGFK *FSCLSLPSSWDYRYAPPTPANFAFLVE TGCLHVGQAGLKLPSGNLPTSASESAG IIGVSHCAQPGTATHSNTVLSGLFC
4571	12622	A	5475	2	363	ELDTLCDLYEP*PSPSIIFINTRRK/VDWLT EKM HARDFTVSAMHGDMQKERVIM REFRSGSSRVLITTDLRIGRGGFRGRKG VAINMVTEEDKRTLTDIETFYNTSIEEMP LNVADLI
4572	12623	A	5476	112	434	ARGIDVQQVSLVINYLPTNRENYIHR*A *IWNTPLPLHTWPSLGLKLLIFLPLVFQ IGRGGFRGRKGVAINMVTEEDKRTLTDI ETFYNTSIEEMPLNVADLI
4573	12624	A	5477	3	724	NSNVEREEWKLDLTLCDLYETLTITQAVIF INTRRKVDWLTEKM HARDFTVSAMHGD MDQKERVIMREFRSGSSRVLITDLL/A E*RELIKAEGRIQGDLSKGTSVPLRKV AAWNIIWHA*GLWGTGMLISSAFLGCPH GCLSVFPPG*SVLRAHAEELSFLTHARGI DVQQVSLVINYLPTNRENYIHRIGRG RFRKGVAINMVTEEDKRTLTDIETFYNT SIEEMPLNVADLI

4574	12625	A	5478	1	1274	MSASQDSRSDNGPDGMEPEGVIESNW NEIVDSFDDMNLSESLLRGIYAYGFEKPS AIQQRAILPCIKGYDVIAQAQSGTGKTAT FAISILQQIELDLKATQALVLAPTRELAQ QIQKVVMALGDYMGASCHACIGGTNVR AEVQKLQMEAPHNIVGTPGRVFDMLYR K/YTLSPKYIKMFVLDEADEMLSRGFKG QIYDISKRLNSTTKVLLSATMPFDVL EVTKKFMRGPPFRILVKKEELTLEGIRQF YINVEPEEFNLDTLCDLYENLDHHPRQ VIFHQPPGGKVDW/LSPEKMHARDFTVA SAMHWRFWTQKERRT*L*REFRSGS*PE F*ITPLTLPAQRAFDVASRVSF*SFKLMTL PPPTRGKLLIHRUGSRVDRFGRKGVPINM LTE/EKTKRNLEDIETVYNTSNEEMPLNV A
4575	12626	C	5479	114	302	MKEEILKKTAE LYKRAMXNKXKQKHHS WVXKAPSRPFIKWETRLGLKTAHSPNVF LQQGQR**
4576	12627	A	548	1326	1780	YLSKLPYFELESIAAARSRPTAQRHPRER KLKPARIYGLGSLALYEKADIKGPEDKK KHLIGVSSDRGLCGAIHSSIAKQMKSEV ATLTAAGKEVMLVGIGDKIRGILYRTHS DQFLVAFKEVGRKPPTFGDASVIALELL NSGYEFDEG
4577	12628	A	5480	1	2043	
4578	12629	A	5481	153	332	QTFVLAEGKH*ENE/PVFKLNVSPLEW REGAFPPKSDVSASFISIALYNSAASFSS PPS
4579	12630	A	5482	2	904	HILLVNLKHLQLCTRNRNIFKLFHFRKK SFMGHQRAIKKGNLYGFALLRRRALQ VEELTLGKDTDPNARTLNELGGLYYLQN NLETADQVLKRFL*MRERVLGPDHPDC AQALWNGAGSYAMKKNQYDKPEDLYK RALDIGRRALAPDHPFLAYTVKHLAILY KKMGKLDKAVPLYELAVEIRQKSFGPK HPSVATALVNLAVLYSQMKKHVEALPL YERALKIYEDSLGRMHPRVGETLKNLAV LSYEGGDFEKAELYKRAEIKEAETSL LGGKAPSRHSSSGDTFSLKNQLHFS
4580	12631	A	5483	2	331	PGQHGETLPLKIQKLAGQGGTSL*SEPL RRLRQENCLNLGGRGCSETRSCHCTLV WVTGRDSISKQKTAVDQAEERVSELEDR LFENTQSEKTEKRIKISTLRGFRK
4581	12632	A	5484	26	117	AKGQVALGRPGARMQGGSKVVGVLAG PGSRSEAGTVPSYPAAQTRPHPPQPLIF RSPGVVPNGHQPPNSTASSKQCNLRC WGLPTVARHPKSGQRPO/PRPTR*PGPSP QGPTPGRKNPERP*LVQQ*PCWAREPV
4582	12633	A	5485	111	270	
4583	12634	A	5486	240	406	
4584	12635	A	5487	128	657	ESESYWAICSRKRSPVLSSYGHHIYLKIR CPVDSISVGRRGFLTIFEDVSGFGAWHR RWCVLSGDCISYWAYPDDEKRKNPIGRI NLANCTSRQIEPANREFCARRNTFELITV RPQREDDRETLSQCRDTLCVTKNWLS ADTKEERDLWMQKLNQVLVDIRLWQPD ACYEPIGKP

4585	12636	A	5488	1076	3513	IKALSSSAEDASLVNASISSSVKATSPVKST TTSITDAKSCEGQNPPELLPKTPISPLKTGV SKPIVKSTLSQTVPSKGELSREICLQSQSK DKSTTPGGTGKPFLERFGERCQEHESKES PARSTPHRTPIITPNTKAIQERLFKQDTSS STTHLAQQLKQERQKELACLRGRFDKG NIWSAEKGGNSKSKQLETKQETHCQSTP LKKHQGVSKTQSLPVTEKVTENQIPAKN SSTEPKEVIREIEMSVDDDDINSSKVINDL FSDVLEEGELDMEKSQ/AGDGSSISR/TA AKNRKMH*ISPQCLYLHHWHKQLV*V* CPHLDWN*KTPAEVMKVQNQENSKELV S/RAESGDSLSEDRDLLYRSQRFKETE RPSIKQVIVRKEDVTSKLDEKNNAFPCQ VNIKQKMQELNNEINMQQTVIYQASQAL NCCVDEEHGKGSLEEAEERLLLIATGK RTLLIDELNKLKNEGPRKN*G*S/APSEF IAIPKDQFTLSEIRLP*KADFCSTVQKPD AANYYYLILKSRSENMMVATPLASTSNS LNGDALFTTTFTLQDVSNDFEINIEVYS LVQKKDPSGLDKKKKTSKSKKSNHSSV MASPGGLSAVRTSNFALVGSYTLSSSV GNTKFVLDKVPFLSSLEGHYLYKIKCQVN SSVEERGFLGCPGGRLQPKRQTIFEDVS GFGAWHRRWCVLSGNCISYWTYPDDEK RKNPIGRINLANCTSRQIEPANREFCARR NTFELITVRPQREDDRETLVITNAGTHSV FTKNWLSADTKEERDLWMQKLNQVLC DIRLWQPDACYKPIGKP
4586	12637	C	5489	135	206	MFIFAFGKSIFKITTTFQSTIVG*
4587	12638	A	549	20	403	KVQGPASAHASGEGSLTIIPVTRSPLAT MNHIVQTFSPVNSGQPPNYEMLKEEQEG AMLGAPHNPAPPMSTVIHIRETSVPDH VVWSLFTLFMNTGCLGLITFVYSVKA RDRKMGRRTRPGAQG
4588	12639	A	5490	67	388	DAVFA/GAMPTMASVKLSTLHPVNHPH YEDADLRPGCSMLEIWDVEDPSNAANPP LRSILLEADARPKMPVFQNSVYRVLKVN* EGNYPLHYGTMPCKVKNHPLAYLH
4589	12640	A	5491	3	107	SIKLSTLHPVNHQHYEDADLRARTKIV YSTYSRTSAKEVRDKLELHVNYVLEE AWCVVRTKFILODGGPVLQAAEK*COM VTQIYKKYSNALEMFGCSMLEIWDVED PSNAANPPLCSVLEADARPYFTTVFQNS VYKVLKVN*EDADLRARTKIVYSTYSR
4590	12641	A	5492	3	289	YYLSPPEMGAIFEDPAHVVVYIIFMLGS CAFFSKTWIEVSGSSAKDVAKLKEQQ MVMRGRDTSMTVHELNRPKVKLRRWK GEGRHFTKRILFY
4591	12642	A	5493	2	652	RVDLPIKSARYRGQYSSYPKLFYTSNPII LQSALVSNLYVISQMLSVRFSGNFLVNL LGQWADVSGGGPARSYVGGLCYYLSP PEMGAIFEDPVHVVVYIIFMFGSCAFFS KTWIEVSGSSAKDVS*TA*KEQQMVMR GHRDTSMTFELNRYIPTAAAFGGLCIGA LSVLADFLGAIGSGTGILLAVTHIYQYFEI FVKEQAEVGGMGALFF
4592	12643	A	5494	58	596	KFIFRDGGSLCCPSWT*TLGLQSSHMSL PSDWDSRVRATKPNFPSS*HSFSALYM HLPRSPLNFIQPCRFYKGPAGLSRGRE* HGL*SDFSVANLWQLGFLWQALTDYRA ELPGMDPIISTHLAKLYDNLEQNLRVIE PFSRVQVRTLWGLHFWPGILTVATSLPH LSRMGTHF



4593	12644	A	5495	2	951	PRVRPRVRPRVRSSRPRSRDPSRRARLR WQLRWKPRWCPRPPKTPGVWKRPRTRP RSSAGGSTGFPSSPILRRSPSTRRRSSRKA SPTATRATGTPPRQAQRKTARAAGRRA SPGIATAGTRSMISMRRPGRKPSNPSWEG RTNEETSSLSRLKPVSPGTITCLRTPGSL LKDSKIPISIKHLTNLPSSHVPVHQPSRS EMPRTKIPVSKVLVRRVSNRGLAGTTIR ATACHDSAQVVRSSRPRWMGPMRNT TFPWETTKVSFAFPKESLL/WTPVPRPA PERGPRRSLCPE*GPDNTRKRDRATRGFLL SR
4594	12645	A	5496	1	279	VQWHDLG*PQPPPGFKRFSCLTPP/RSS CDHRCPPPTD*FLCFLVETGFHYVGQA GLELLTSGDPPTLASQSAGIAGVSHHARP NFLIFFFN
4595	12646	A	5497	2	291	FLVARVAGSGDGLTLFPRLECTSVITAP ASISWAQGDLPASASQVAQTAGACHHS WPVFTSCVEMGFPCVP*AGLELLGSSPPA PQPPKMFRLOA
4596	12647	A	5498	2	345	SHSVAQIGVQWRDLGSLQSPPGFKRFS CLSLPSS*DYRHAPVHPANFFLVEMWL PRVSQDGLDLLTSIDLSSASQSTGITGM SHRARPNFCIFSRDRVSPCWVWSQTPD LR
4597	12648	A	5499	2	311	QVLENPHFPRG*APPPSW*YPSGFYKSNR PRACFNPRSLAPRGPHQGFFPPGPLAFP PPFLGPPYGSRRFPSEHFQKVQPLNQPPF LSLKNPP*RFFFFF
4598	12649	A	55	730	950	SFLKDIGLFKIIYFFFFFETGVSFCHPRLE CSGETMAHC\SLTSLGPDPTSAS*QAG ITGVHHHARLIFF
4599	12650	A	550	2	431	DAWAMNHTVQTFSPVNSGQPPNYEM LKEEHRVGCAGAAPTTLFPPTSTLIHNRQ RDLPCPTHVWSLFTNLFMNPCCLGFO *EFAYSVKSMRDMVGDVTGAQAYAS TAKCLNIWALILGILMTILLIVPLIFQA YG
4600	12651	A	5500	1	2500	MEDAWGIRKETGRVKEEAKEKVTGWGN NWRNVEKSSMSRKVKAARPGFKKLPM SDIPPKCTIKDLLPKEKSSTEAVFHTVVL ERHESPDIEDFSFKEPQKNVHDFECWR DDTGNYKGVLMAQKEGKRDQRDRDIE NKLMMNNQLGVSFHSHLPELQLFQGEK MYECNQVEKSTNNGSSVSPLQIPSSVQ THRSKKYHELNHFSLTQRRKANSCGKP YKCNECGKAFTQNSNLTHRRHSGEKP YKCSECGKTFTVRSNLTHQVIHTGEKPY KCHECGKVFRHNSYLATHRRHTGEKPY KCNECGKAFRGHSNLTHQLHTGEKPF KCNECGKLFTQNSHLISHWRIHTGEKPY KCNECGKAFSVRSSLAIHQTIHTGEKPYK CNECGKVFRYNSYLGRHRRVHTGEKPY KCNECGKAFSMHSNLATHQVIHTGTGPF KCNECS\QVFTQNSQLANHRRHTGEKP YKCNECGKAFSVRSSLTTHQAIHSGEKP YKCIECGKSFTQKSHLRSHRGIHSGEKPY KCNECGKVFAQTSQARHWRVHTGEKP YKCNDCGRAFSDRSSLTTHQAIHTGEKP YKCNECGKVFRHNSYLATHRRHTGEKP YKCNECGKAFSMHSNLTHKVIHTGEKP YKCNCQCGKVFIQNSHLANHQRHTGEK PYRCNECGKAFSVRSSLTTHQAIHTGKK PYKCNECGKVFTQNAHLANHRRHTGD KPYRCTECGKAFRRQGVTPGPSLENGT ILAYSSLKFVGSSDTHISLLRSQDDRQVL PHLANPNFREGLLPAFLLLCSDSHFLQFC SQFAPRKTQSGSVNNIQANIIAK

4601	12652	A	5501	1	2508	MPHQLGPNLVDPDIPPKCTIKDLLPKEKSS TEAVFHTVVLERHESPDIEDFSFKEPQKN VHDFECQWRDDTGNYKGVLMQAQKEGK RDQRDRRDIENTKLNNQGVFSHSLPE LQLFQGEKMYECNQVEKSTNNGSSVS PLQQIPSSVQTHRSKKYHELNHFSLLTQR RKANSCGKPYKCNECGKAFTQNSNLTS HRRHSGEKPYKCSECGKTFTVRSNLTIH QVIHTGEKPYKCHECGKVFRHNSYLATH RRIHTGEKPYKCNECGKAFRGHSNLTTTH QLIHTGEKPFKCNECGKLTQNSHLISHW RIHTGEKPYKCNECGKAFSVRSSLAIHQ IHTGEKPYKCNECGKVFRYNSYLGRHRR VHTGEKPYKCNECGKAFSMHSNLATHQ VIHTGTKPFKCNECSKVFTQNSQLANHR RIHTGEKPYKCNECGKAFSVRSSLTTHQ AIHSGEKPYKCIECGKSFTQKSHLRSHRG IHSGEKPYKCNECGKVFAQTSQARHW RVHTGEKPYKCNDCGRAFSRSSLTFHQ AIHTGEKPYKCHECGKVFRHNSYLATHR RIHTGEKPYKCNECGKAFSMHSNLTTTHK VIHTGEKPYKCNCQCGKVFTQNSHLANH QRTHTGEKPYRCNECGKAFSVRSSLTTH QAIHTGKPYKCNECGKVFTQNAHLAN HRRHHTGEKPYRCIECGKAFRVRSSLTT HMAIHTGEKRYKCNECGKVFRQSSNLA SHHRMHTGEKPYKECGEVIRYNSLLSH QLNHS*QNPYKSDSGQSLMS*SINRYER P*ARD/YHVNICGRGSIQASQVTRHQDFI SLMKRNKCNMHPEAITQ*PMVSEDS
4602	12653	A	5502	3	361	PKKNYFPLHLKGPKTKGVFFYSSSSSSQK GVSLCNPRWNAVGPFPGFSTPPSLVK*F LCPNPWS*CDFRPPSPRPGYFCFFNKNKA LLARVVFNS*PQVIPLFQPPKMVGFOGLT PLAG
4603	12654	A	5503	32	392	FLFLSFPLSFKMTLNDAMRNKARLSITG STGENRRVMTPEFPKAVHAVPFT*SPGH GNGMSSVTESLGGLIRTLALSALPQWFSC VFIVQSGERHPSILEDFSFQPKNSLNMWS SILKL
4604	12655	B	5504	473	524	MGEAKKTGEQVRVLPRTX*
4605	12656	A	5505	1	627	LVSSFFFFFFCRDRVSPCCLGWSPTWSPG LKRSARLGLPQCWDSRRELPRPAYLLFL LSWGSPPSAWQEGG/WCKKKRGTEHPE VPSIPSTCPSPTVQQ*S/GEKQVQETGRQ S/LGEAKKTGVQWHDQGSQLP*SGLK*S SYLSFLSS*DHRCAPTTD*FL*R*DPTML PRLVLNSWAQ/CDHPALA/SQSTGIIGLSH RAWACDQNSHFF
4606	12657	A	5506	3	649	RVSSVMSTSLEEIFNCIFDAHVPLWGKA YPSQKPLAAWTRDLAMRVEQFELWASR ARPPVIFWLSGFTFTGFLTAVLQSSARQ NNVSDLSWEFIVSTVE*QAT*VYPPKD GCWVRGLYLEGAGW/DPEELLGGRQS PCKLVWLMPTIHFRAESRKKSPKGMYS CPLAYYPNAGSSDRASFVIGIDLRSGA MTPDHWIKRGTAALLMSLDS
4607	12658	B	5507	167	377	XKLIQFGLMKNLIRRLQKYPVRVTREEQ SHPARLYTGCHSYDEICCKTGMSYHELD ERLENDPNIICWK*

4608	12659	A	5508	2	1247	TPLREERGATGLGPVIAMGSGCRICIFFS EFHPTLGPKITQVPEDFISRELFDTVQV YIITKPELQNKLI/T/VLESSFVSMEESKQK LVPIMTILLEELNASGRCTLPIDESNTIHL KVIEQRDPDPVAQEYDVPVFTKDKEDFF NSQWDLTTQQLPYIDGFRHIQKISAEAD VELNLVRIAQNLLYYGVVTLVSILQYSN VYCPTPKVQDLVDDKSLQEACLSYVTK QGHKRASLRDVFQLYCSLSPGTTVRDLI GRHPQQLQHVDERSEENLLGHLGVT*GK LDPLCLSGALDHGALPIQAGFLEMMGYR DKIEGRLOERVGLPERRPGQGVTPSSDP HPRKLIQFGLMKNLIRRLQKYPVRVTRE EQSHPARLYTGCHSYDEICCKTGMSYHE LDERLENDPNIICWK
4609	12660	A	5509	1	512	CTLPIDESNTIH*KVIEQRQTPRVAQEYD VLVFTKDKEDFFNSQWDLTTQQLPYID GFRHIRKISAEADVELNLVRIAQNLLYY GVVTLVSILQYSNVYCPTPKVQDLVDDK SLQEACLSYVTKQGHKRASLRDVFQYD EICCKTGMSYHELDERLENDPNIICWK
4610	12661	A	551	137	838	SSGICSAIWPWPALHLTNARKRLLRK RNYWRKGESLRTIPVTRSLVTMNHIV QTFSPVNSGQAPNYEMLKEEQEVAML GAPQKPCLPCEPPVIHURSETSVDPHVV WSLFNTLFMNTC/CRLGFIAFAYSSEVS GTRKMVGEVTRAQGLLPPPKCLNIWA LILGWFMNQFLINHPPPSVGSSRPSDRSG RHHLRPRELCPVEPVSVQKNSIFHSLALP PEARKFCEP
4611	12662	A	5510	1	474	HTIHLKVIEQRDPDPVAQEYDVPVFTKD KEDFFNSQWDLTTQQLPYIDGFRHIEKIS AEADVELNLVRIAQNLLYYGVVTLVSIL RKLIQFGLMKNLIRRLQKYPVRVTREEQ SHPARLYTGCHSYDEMCKTGMSYHE LDERLENDPNIICWK
4612	12663	A	5511	199	562	KESPGPGRHPVPLIPHP*ES*IPVRAL*KN LIQATYRKYPVRVTREEHRAHPARLYTG CHSYDEICLQDRWRQAGSQGGFRAGCA RPRPLTSPPPHPGMSYHELDERLENDP NIICWK
4613	12664	A	5512	1	1224	EFGTRPLREERGATGLGPVIAMGSGCRIC CIEFSEFHTLGPKITQVPEDFISRELFDT VQVYIITKPELQNKLI/TVAMEKKLIGCP VCIEHKKYSRNALLFNLGFVCDAAKTC ALEPIVKKLAGYLTLELESSFVSMEESK QKLVPMITILLEELNASGRCTLPIDESNTI HLKVIEQRDPDPVAQEYDVPVFTKDKED FFNSQWDLTTQQLPYIDGFRHIQKISAE ADVELNWVRIAQNLLYYGVVTLVSILQ YSNVYCPTPKVQDLVDDKSLQEACLS YVPKQGHKRASLRDVFQLYCSLSPGTT VRDLIGRPPSSCQHVDERKLIQFGLM KNLIRRLQKYPVRVTREEHRAHPARLY TGCHSYDEICCKTGMSYHELDERLEND PNIICWK
4614	12665	A	5513	2	313	FETESYSVAQAGVQWWDLGSLQPPPPGF KRFSCSLSSWDYRPPPRLANF*FLVE TGFHHVQAGLDLLT/S/GDPLASASQSA GITGLSHCAWQTTYITFNHK
4615	12666	A	5514	731	1156	SVLGLISDTSNTFLSFFFFFEMESHSLAQA PLQWHYLGSLQAPPPCKLRLPGSRHSPA SASRVAGTTGARHHARLIFGFLVEAGC HRVSQDSLDDLTS*STCLKP/AQSAGITRR EPPTPLGFFFLKMESCSVGPRLGVQSW
4616	12667	A	5515	3	365	LLNSRPVDDFFFFFLLSHSL/DSVVQAGV QWHNLGSRLLQSPPPGSMPPFCSLLSS WDYRHPPPYLANFFFFCIFSRL/MGFTML ARMVSIS*PCDLPALGSQAGITGVSHHA

						WPAYFYFQ
4617	12668	A	5516	400	619	MPEQICPLETSQS*INNLPKKFFMSI*CP GFERSYFFF*CC
4618	12669	A	5517	274	693	KYQILLYNGDVMACNFMGDEWVFD LNQ/KGKVEIPGPGIEPAGEEWGAGMPG SGQLAAWLWAHRGQVWRNSQP*GLAG SCEQGCSCRLMSFLVGQMEVQRRPW VKYGDSGEQIAGFVKEFSHIAFLTIKVG TGAER
4619	12670	A	5518	3	766	NRLWSSLQTHCCSQNKCNFYDNKDLEC VTNLQEVARI/VGNISGLNIYNLYAPCAG GVPSHFRYEKDTVVVQDLGNIFTRLPLK RMWHQALLRSGDKVRMDPPCTNTTAAS TYALTNPYVRKALNIPEQLPQWDMCNFL VNLQYRVFLPSQNSRYLKLSSQKYQIL LYNGDVMACNFMGDEWVFDLSLNQK MEVQRRPWLVKYGDSGEQIAGFVKEF SHIAFLTIKGAGHWMVPTDKPLAAFTMFS RFLNKQPY
4620	12671	A	5519	2	279	FLRDVILL/C/HPGQSVVV*S*LTVSPT ELPGSSDPSSAFNCWEYRCVTPCQLMF*FT LLSIGIGSTLPRPVLNSSPQVILAPWP PKVLRLE
4621	12672	A	552	1	528	
4622	12673	A	5520	2	1045	CPSRPCRPPPPRGPGRASYPGGPAP/P GDKKKRPPQIGPRGSSPAPGPPPPQEA A GPARPRPGQDAAAGPSGRPPQALPS PR GPQPRAPRPGQAPATAQRGPPMRPRR GRGPPPRAPP/PGAGPC/PLRCALLP ESH PRGRPGHPEASSGEAAAGAAPALPLTL GRTQAPTRPVSPG*GRGPAEGRPRQR/PP THPPPPAIGPPRASARRPAAARRPAGSPA QPAARGPAADAQGVAAQRAAQVRRRG VRGGARGGGGRGP/RGPRGRP/PGSSGRQR PLSGPSPAQAGPRGAQPDSPDHGPPPAL ASRQPGPFSFTPVVSTPDACLCPHSGLL LL ASPSIHAVRGELSN
4623	12674	A	5521	84	202	
4624	12675	A	5522	3	576	ILGFPPFVRWGSHTVAQAGVQWCDHGS LQPRSPGVK*SSHLSLLGSWNHRHATT T PG*FCFFSRIRSHCVAQAGL*LLTSNHPP ALASQTVGITGVSHWTPNTGFSVLTA TNKNLKFFHYAISKCLVRAKLSRLLKIE ERNKALSAPVVSVSIFDRVLRLGYSAS DWQPEFVETA VSNFVIYGIFRGQ
4625	12676	A	5523	177	904	ESHLQNDTAAHPLLNGTECGVSPPLTS RQGVVRRRTQSSTSRCT/SPVIPKQTFPQ P VLHMSAGVALDSPAAPPWPQPPQGF AHT*DRKEEGDPIGIWAPEGKSCTPKPP PSLPRTSPGWKRALQKGDTCGPSTAS TTPHPLILGPSQAPPKPKPP/PSGVPACAP S/YPALPAPSLTEKEQARAPGGQDGAG HTVGGGGAAGRREGQNKTFSGFFFSFF FLPFTLVVLLFLSFL
4626	12677	A	5524	1	173	FLGPSKFPFPGFPPFPFPPPRERGNQRSS S PPSSSS/P/PSQKKTGVPPG*PGGFPPPP
4627	12678	A	5525	1	390	LILNTRPAFIFDLLHNLDPEQAYADLV SAYTLNSMFWLYLATQGVNPTDHPVKH ELDTT/RACMNRSSSPTDKKAGLLYRG AASKFVKNALWEPKSKNA*KVGNKGKS PTSLFGFDVHIFKKNMLPPP

4628	12679	A	5526	1	1548	MPERDSEPFNSNPLAPDGHVDVDDPHSFHQ SKLTNEDFRKLLMTPRAAPTSAPPSKSR HHEMPREYNEDDPAARRRKKKSYAK LRQQEIERERELAKEYRGRAKERRDGVN KDYEETELINTTANYRAVGPTTKADKSA AEKRRQLIQESKFLGGDMEHTLVKGLD FALLQKVRAEIASKEKEEEEELMEKPQKE TKKDEDPENKIEFKTRLGRNVYRVLKFN/ KAYKRNELFLPGRMAYVKVDCPTMEA QTILTTNDIVISKLTQLLSYLRQGTRNKK LKKKDKGKLEEKPAEADRSIFEDIGDY TPSTIKTPWDKERERYRERERDQ/RDRDR DREERERERDQERERDRERERDRER/GPG SAKELIKSINEKFAGSAGWEGTESLKIAE DKKQLRDFFGMSNSYAECYPATMDDM AVDSDEEVDYSKMDQGNKKRTLRSWD FDTQEDYSEYMNNKEALPKAAFQYGIK MSEGRKTRRFKETNDKAALDCQWKISAI IEKRKKMEADGVEVKRPKY
4629	12680	A	5527	1	3162	
4630	12681	A	5528	2433	2540	
4631	12682	A	5529	1	1739	MPERDSEPFNSNPLAPDGHVDVDDPHSFHQ SKLTNEDFRKLLMTPRAAPTSAPPSKSR HHEMPREYNEDDPAARRRKKKSYAK LRQQEIERERELAKEYRGRAKERRDGVN KDYEETELINTTANYRAVGPTTKADKSA AEKRRQLIQESKFLGGDMEHTLVKGLD FALLQKVRAEIASKEKEEEEELMEKPQKE TKKDEDPENKIEFKTRLGRNVYRVLKFN/ KAYKRNELFLPGRMAYVKVDCPTMEA QTILTTNDIVISKLTQLLSYLRQGTRNKK LKKKDKGKLEEKPAEADMKYVS*PLA SDQREGVCTFLVSGILGRC*HENLEKWS GGVKVYV*IWPASDLHFPSIFEDIGDYVP STTKTPRDKERERYRERERDRERDRDR RERERERDR*HERERDRERERERERHSY FEKPKVILLGPWTFDKGPGSTKELIK/SFI EKFAGSAGWEATESLKKPEDVKQLGD FLGMSNSYSECYPATMDDMAVD\SDEE VDYSKMDQGNQEGGP*ARWDL*FPQE EYKRVFVTTKEALPRVAFQYGIKMSÆ GRKTTRRFKEPQ*PKQSLIRQWKKI
4632	12683	A	553	1	1682	MDNLSDTLKKLKITAVIDKTEDSLEGCLD CLLQALAQNNNTETSEKIQASGILQLFASL LTPQSSCKAKVANIIAEVAKNEFMRIPC DAGLISPLVQLLNSKDQEVLLQTGRALG NICYDSHSLQAQLNMGVIPTLVKLLGIH CQNAALTEMCLVAFGNLAELESSKEQFA STNIAEELVKLFKKQIEHDKREMIFEVLA PLAENDAIKLQLVEAGLVECLEIVQOK VDSÆKEGGITELKTGSDLMVVLLLGDES MQKLFEGGKGSVFQRVLSWIPSNHQL QLAGALAIANFARNDANCINHMVDNGIV EKLMDLLGRHVEDGNVTVQHAALSALR NLAIPVINKAKMLSAGVTEAVLKFLKSE MPPVQFKLLGTLRMLIDAQAEAAEPIGE RMLKLVERLVGWCEAKDHAGVMGVEQ NRLLSALIRHSKSKDVIKTIVQSGGIKHL VTMATSEHVIMQNEALVALALIAALELG TAEKDLES AKLVQILHRL LADERSAPEIK YNSMVLICALMGSECLHKEVQDLAFLD VVSKLRSHENKSVRQQASLTEQRLTVES
4633	12684	A	5530	93	546	YNCRPTLGVSGCAGLDAQVVCQDCAFE LGKKP/PSGGEQYPSSSAIKQGPKEPYAD FIARLQESLKKVIADLAAQDIVLWLLAFD NANPECQAALRPIRGKAHLVDYTKVCD GIRDKLHKATLLAQAMAGLRMGKGNT PFGACFNCGKHGH
4634	12685	A	5531	1	541	

4635	12686	A	5532	365	661	
4636	12687	A	5533	3	74	RMGPRTGP*VFPETGFPPLSNLE
4637	12688	A	5534	83	262	CTVTPPPQDTGQSKS*STRVSSSLVPRSPT VAPVTLRPGFEPP*WTPLAKTSSVLQW C
4638	12689	A	5535	636	698	
4639	12690	A	5536	125	340	
4640	12691	A	5537	81	1007	QPKAEHAALNLRKTFQHASHTPPFSAQQ *NPHRPHQPWL*HALVQHCSCSDMQRPS ASGP*/PPGTFSRWSSCKMPVPPPAQVPK SLCGVLSSSC*PGRRSPPGAEPSPRACRP CRQDSG/PAQAGGPCRQDSG/PDPAGGPR DK\*ASQPLPAGERAIAGGPCRQDRGQ PRLASSAGGHCRQLRG/PTPAGGPCRL/P QRAAPAGGPCRQDSEQLRLAGPAGRLA GRHGRRSPGPAEPSPRACRQESG/PAQAG GPCRQHSG/PDPAGGPRGQSLPAGPAR RRAGNPGRQPLQTGQRAAEAGEPAFAT AVSGRD
4641	12692	A	5538	1	766	
4642	12693	A	5539	74	1178	
4643	12694	A	554	3	910	GRPPRVPPWLRERRRLEGGHRAAPPAPY DLRLAPPVPHPRGATWQIILSDTLKCLKI TAVDKTEDSLEGCLDCLLQALAQNNT ANKCKKSKQVAILQLFASLLTPQSSCKA KVANIAEVAKNEFMRIPCVDAGLISPL VQLLNSKDQKVLLQTGRALGNICYDSHE GRSAVDQEGGAQIVIDLRLSLCSITDPAI NEKLLTVFCGMLMNYSNENDSLQAQLI NMGVIPTLVKLLGMHQCNAALTEMCL VAFGNLAELDAIKLQLVEAGLVECLLEI VQKQVDSKEDDITELKTGSDLMV
4644	12695	A	5540	1	857	MGQVWGLVHFTLELFQTDDEEEQEYNK VTEEVTEHVYLP*PDVHLNQPSHQPPK AGLQLY
4645	12696	A	5541	518	578	
4646	12697	A	5542	750	797	
4647	12698	A	5543	2073	2844	IVRSLSRQAQKIRSGCPCQSW*RRGRPVG SPSQSTEGPGQVRLRT*PLPFHHPHEGGP GAGRRSRSSLERPTSQPHRSQSGRCPAAP ATPLPSPGPQA\PLGAPFERG/PRSRSA/QG APGTGVRRFFSMAQPFPPCSTSQPLKPCSP QELKMRLRPKGA\PDSSAPGRTAGTPPCL RCWAGSVEPLRRVRGPRRCGRGPAAAA TQWARPLCRARRGTLGGIA*PRSVAAARG SAPAPAAPGAARPGPMGPPAAVAIAAG RP
4648	12699	A	5544	3	611	SLPPRASRLPPGPSFSGWSPGDNRKLPNT PPPPRAGPRPPSRAPPA*TPGPSSAGSWP* PPGTGSAPRGPAAPSAPGARRPGRPGCPA PAGRPRVPTAGAGACSAASRPGRTRPCT RPGAPRSRRRGCGPGGA*PGARRPPRP RPPATRAPRSRSPRGAAPPPTPTRTARGA AARELRVQRGP/APLHAPQQHTPAAIVP YKM
4649	12700	A	5545	3	42	
4650	12701	A	5546	1	160	SMQQTLLLSYF*KLP*PPQPSATMTQISQ QPSTSRQDPPPTK/RL*LVEGSNNH
4651	12702	A	5547	298	421	LHPHILPIDKLLHQ*KVVSVSSEYRQNEV PLYSISSNLVHS
4652	12703	C	5548	598	762	MNSMIQICQDRAEIHSSYCNLKIHQRLQN LLISFLQSLKLLKNVNLFSINKNLK*
4653	12704	C	5549	138	296	MNLEVTVARDYLSPLADLAQRRGNIQ EIQTRQDNKVVGIFVPLAEIMVGTL*

4654	12705	A	555	1062	1421	DRVSLCC/PRLECSGMISAHCNLPSPGFK QFSCLSLPNGWAYRSVPPCANFCVVF/SV ETGFHHVGGAGLELLTSGDLPALASEKC WDYRREHTARGPVTKPSYFQVLFRLHP IFINHLNT
4655	12706	A	5550	2	1575	AMLGTRVERCLRVLGDGAVAEFDASAGV EAQTLTVWRQADKHNPICFLNKMMDKT GAINFKYAVESIREKLKAKPLLLQLPIGE AKTFKGVVDVVMKEKLLWELQFK*WE KTLRRKAPLGK*MIPEFAGRETT*RKEC L*LEQVADLDDEFADLVLEEFCEFNFDLLP AEKLQTAIHRVTLAQTAVPVLCSALKN KGIQPLLDVMTMYLPSPEERNYEFLOWY KDDLALAFKVLHDKQRGPLVFMRIYS GTIKPQLAIHNINGNCTDRTQIALSVNNH EVHIYKKNRQCCKAHELKEHNGHITDI DWAPKHDHIVTCGADHNAYVWSQKDG VWKPTLMILRINRTATFVKWSALENKFA VGSEARLISVCYFESENDWWVSKHIKKL IRSTVLSLDWHPNNVLLAAGSCDFKHRV FSSYIKEVDEKLASMPWDSKMLFGQLM SESGGGGTGGWVHGLDIPKQSIQRNMSA MECFCNTDKRATTEGSMALKMLRQNS ITQVSIYEVDEKDCRKYCTTGIDGEP
4656	12707	A	5551	1137	1288	RTLNLKAMASRVLRIILTGR*CLDVSIKI PL*ENLGESIMVDSLMLVKVP
4657	12708	A	5552	1	1851	MALKKADKQVLEPLMNLEVTVARDYLS PVLADLAQRRGNIQEIQTRQDNKVIGF VPLAEIMVADLDDEFADLVLEEFSENFD LLPAEKLQTAIHKSDTKLRQQLPVLCS ALKNKGIQPLLDVMTMYLPSPEE/L*PM EFLQWYKDDLALAFKVLHDKQRGPTG FYAPFNSRPL*KPQLAHSIILMETATERIS RLLLPFADQHVEIPSLTAGNIALTVGLKH TATGDTIVSSKSSALQLVEPNGREKRS TDKTMKAERLLLAGSGRFQEPVFFCTIG TPITV*GSQIWEHAFEMSFSVRIPVLKVR LDPDSGQTVLCGMGELHIEIHDRIKREY GLETYLGPLQVAYRETIILNSVRATDTLD RTLGDKRHLVTVEVEARPIETSSVMPVIE FEYAESINEGLLKVSQEAIEGHSACLQ GPLLGSPIQDVGNLYIP*QIHPWAPSTT YDFCLCLKMPCKKALERKADKQVLEPL MNLEVTVARDYLSPLADLAQRRGNIQ EIQTRQDNKVIGFVPLAEIMGYSTVLRT LTSGSATFALELSTYQAHESRSKYTAQP EKWFDLNLVLFGRGNSGRHPRLLHFSV RNNFYCLYLLGRNKGTVSGTFRGT
4658	12709	A	5553	2	499	RCQKAKFTPVNRRHHCRCGFVVCGPC SEKRFLLPSSSKPVRICDFCYDLLSAGD MATCQPARSDSYSQSLKSPNDMSDDD DDDDM/TVTKDTFGSI*SGEAL*EINFGG NARL*ALSLDCSVMNLPEKLGTYVPQYI P*KEGAPAFCHSSHSTGIGFCKYIR
4659	12710	A	5554	147	315	LIPQPWGQHPLPNNISNYD*RPQKFLGL PHPCSFGGRALTPHWSTGLRLTPSAQ
4660	12711	B	5555	105	508	XPGTREVEELNALQEELAPFGLVILGFPC NQFGKQEPGENSEILPTLKYVRPGGGFV PNFQLFEKGDVNGEKEQKFTFLKNSCP PTSELLGTSDRLFWEQESSRHPLELWKF LVGQMDTHHALHHRPRQRR*
4661	12712	C	5556	4	165	MCLSGNVYHLCACSCVVPQCCTTSLQF STPMIIVHLHLNPKKPALGPVILL*
4662	12713	A	5557	1	1803	

4663	12714	A	5558	2013	2024	KVAGSAGHLRRTVARDQAAAQRDPECA PTPSLARLLQASCLLSLLLAGFVSQSRGQ EKSKMDCHGGISGTIYEGALTIDGEEYI PFKQYAGKYVLFVNVAISY*GLTGHVH LN*TALQEELAPFGLVILGFPICNQFGK QEPGENFRRSFPNPSRYGPTKVGGFCSL NFPALLRKGDVNGEKEQKFYTLKNSCP PTSEALLGTSDRLFWEPMKVHDIRWNFE KFLVGPDGIPIMRWHHRTTVSNVKMDIL SYMRRQAALGG*RVGCPFFSFKILYFPSR VYSLGGGWSILFPPQNKGSFPKFPSRFL GPP
4664	12715	C	5559	2	226	MLLPLPSPSPSTALPGLGEMGGRPPPPY MLSVAPQTF CFISHSSPSHRVSFAFPCS VLPPPSQKFLHRTSF*
4665	12716	A	556	213	513	GKSLARRVPKGRMDGLLNPRESSKFIA ENSRDVFIDSGGARRVAELLLAKAAGPE LRVEGWKALHELNPRADAAVNWVF VTDTLNFSFWSEQDEHKW
4666	12717	A	5560	2	1308	ALSLLALPPASPP/AGRGRFAGPGPAPLP WHQGLPLTRPGPEG/PLPQGRPLSPPLQP TPAQPLLLPAFPLLPAPGPRRVGFACWC P*SPGLSPPGLPSPDFQTLPCGISFL/PEMR KLESWSPAGEPSPPPAPPATRVSSRMQLP DPLTLLPPAGPKATFNSYGV/PPPAPE/PS QGRVRGHPEPTGPLLHSSQGQEAAPLPP GPCCYGD TAF/PRTEGPPSLPPTTRARLSS PPPRFPADVVCVLSVSLVLC TPLSVVPM */PHPCCTGSLSSWLP LLMMLLPLPSPS PSTALPGLGEMGGRPPPPYMLSVAPQTF CFISHSSPSHRVSFAYPCSVLP*APA WAQDPILPARVSPPGRVPFPPC/PPSHPT PGSEAPHS*PSVFLRWL KATGPPAQPSA PPKPGNLGPHKPLWKLFCASHSFP RSFC TELPF
4667	12718	A	5561	3	259	FLFWVFQIPAPFPEYVTDLCICTPTSASN GYLLA\GRDKAQRL\WERLRVVFQRALR DGA*AGEAGGSTPNTVTMEMQCPGNA S
4668	12719	A	5562	2	329	AGVQWRNLC SLQAPPPGPRSFRLSLPSS QVAGTYRRPPPSPANFLYV**RRGFTTV NQDGLDLLTSGS\PASASQSAGISGVSHR AQPSFTFFRLACHVFVRHCHLPT
4669	12720	A	5563	3634	4389	LIQFLLHSIGLYSYTTICLFILLMEYWL FPVFSYYYYYFFFLRRSLALSPGWSAVV QSRLTATSASQVQTILLQPPE*LGLQVC ATTPS*FLYF**RRDFTMLARMVLIS*PR DLPTLASQSAGITGVSHRAWSFLVLFVFF *TESHSVAQAGVQWHDLGS LQPAPLRF K*FSCLSLPSSWDYRRPPLRPANFFVFLV ETGFCHVGQAGLELLTSSDLPALASQSV GITSVSHHTRPGMSFFITSHKL
4670	12721	A	5564	1	369	LQPQP\PGLNQSSLLSLLSSWDYRHMPY PANF*YFPETRFCHVAQTGLELLSSSDPP YSASQSAGITGVTHRA*PRFTLCTGLIRG QHGEKGLAQGHNVRASSSIQGSVVTWG LRGLFFPHH
4671	12722	A	5565	161	231	



4672	12723	A	5566	1	1401	MQIFDYNSEITDPGIQEEAAGLEGTRKP WNISMILLTRNISLCQWFSKCGPEPDTST SWGTPQKEHCHLVNKGVDLSLRMRGY MHGHIQPLNLFQESQLMPQTLFFHNFQN CFFEELHKWRCPDYYENNVRKMQLPFS SKLLGSTLTSEEKQERRQQQLRRLQELN ARRREEKLQLDQERLDRLLYVQELLEDDG QMDQFHKALIELNMDSPPELQSYIQKLSI AVGAG*AENPPSGSQPR/EWDVV/TTASQ RPLTWEQLEPSLEDVESMNDFDPLFSEE/ D/TLEWRSRSP/RVQPVFNLAAYHQLFVG TERIRAPEIIFQPSLIGEEQAGIAETLQYIL DRYPKDIQEMLVQNVFLTGGNTMYPG MKSARMKELVAG*DP SRLSFKVNLASNP CAGM/DWYGGLVNWALNHLDDNEVWI TRKEYEEKGGEYLKEHCASNIYVPIRLP MSCLPLLRCPRHPSQGSAAAGGGGAG
4673	12724	A	5567	2	131	
4674	12725	C	5568	170	394	MKTNGYQGRVQWLTDLVLNLKSRPVQS SRPSLGNMVKPPSIQKLGKAWVACTCCP SYSGAGAGGWHEPRSLRLQ*
4675	12726	A	5569	2	583	DRKGLESSPEPPSDCRRPPGMDLLAISVP LLAPSPQPVQSWPSG*CGRQAPCVLES GHSAGAGVSSWDGPPVPCKCPHPGLSQ AHPGKTFGPKNLHMVPSGGAQAPGPHK ANQQSWPSCPPVPRSRPTFSHIAENPME RKSFAQGSAGGNWQRKVSNPFPWELQV FESPSRPCVKNGRAAGLVTGGFREG
4676	12727	A	557	584	827	FLFYLFIFETGSHSVTRLECGDTIMARC SLNFFGSSDPPASASWVAGTAGVLYHT WLSFAFFRRDGVSRVARAGLQLLAW
4677	12728	A	5570	3	312	FFLNROGLALLLKLEYSGMIDHCKPQIS GAQVILPVASWVARPTGVYHHA*LIF KWGREVETESCYVAQAGLELLASSDPPT STSQRAWITGLSHCAWPA
4678	12729	A	5571	1	121	IFHVLKNCQTRSYLALMSFKNEGEIKMF SNIQKLKEFITDRSK/LQEMLKNAL*AERI YY
4679	12730	A	5572	2	228	FETGSHSIFWAGVQWYNHSSLQPRLPGL R*FSHLSLPSSWDHRCPTPRPCNFSIFSRD GFSSC*SGWSQTLGLK
4680	12731	A	5573	1	1896	MVSQGCRRSREMRDAHAGWDSPTALHM ARGLGRRVFSAPRHTEGGTPDGNHLSLSP NOKMEKLTEKCKQLRQGGLCVRVSDR TVRSVQETTAITATLKGSLGTYCRGTRN LLTAEGFMPHASVCIQSKSGKVARNTVQ GFTAHGKAVLEAAVSAAGPAGTWGCLR IKWPRSVSWLLKPERAATLVGHGCRKS GCPPGLGGSAM/PPRHQSAAPAGRGRG PCWGPEPTSGSLSNQQLPGVALHAPPLP SAPLLGPPLSRTVDTGPGGSGREVEATT CGRRLKDKDSEHAGAGSRHHQSQVTGS LGEERAVRAESPGEGPAEFLRRIQGAVQ TRAVTAGSSVEKINTKLETCDASEEE VLGGDNVETEERSVCVPEPVKMTLFEKR VFADIIRCLARWAPAAATNRDLVNTLPG HGPPCSLVAF/APPSPRPYP*PAARCWW ASDFPERGKRLPAHSSFPVAPPVQ SQSGPLPCTPRHFLPFPAPAFGICRGPR APGG/SKAVATQRPWWLYAPGTAPGGL PW*/AVPGHNKSIPPQPVSNLTETPLNAP QSSWAALGSKRLGQGC SHGFFAFSFTAD VCTNDDTLNANSLTEVLATEIKHDINLA NEGLAWDRGWQDYQGDMLSL

4681	12732	A	5574	1	475	FWKSPYSVQPRTEARAQGNKQKEFRET APGSSSKADTKSEHLWALLPSRRWGGG QTQHPPLAREPQFLACGPMKDIRLADWS TPLLSNPS*KLP*ICQSCPLEQEGKQKA*D ARGVPSFPELQPPSGLTAQQGQTHRPHPD LRMTCGRTWHHFLAKTLH
4682	12733	A	5575	2	468	SRGILADPPRPGGQPDFLQ*PTRVAALS GLSNQDIDLGHLMRRQPQVPAGPEAET AASRTALPCAVNPWTVLRATLPDLDCIQ TEACGMKPSAVSKFLVPRQYVPRLPFKV AVMAVVSTLRTLVSLLTHSPPCRSL QPFVSFSIFWFGDK
4683	12734	B	5576	90	1686	XWWEPSFPQQRDSLKVTLQRAAFNP VAPTHSFKDQHPMPSCFHLGSPVPSSRT TLATGRAAPHSSPLKSLVQGYAPWQTS MSCDYQPPRQEHKETSRRNSEKQLQAP AQRPTPKANTSGRSLQEDLLPEAQPL SVPVCHPCPLLHAARLAVSAAAAIRGLE VAEAAALVCAQKLLAACSSHSLLITVWSRG KVKETGLPSTVQAVSELLQVLLCKQKAG GCTPDQGPHTSKVLTEASSLPRISRMCLL QPGPFSNIPGLTATLTPAATAATPGPLL PCTKHGNPLGHGLTCHYPLAPLPLPAP HVRFAALSCLERSAGCCLCTPSCRITTVG GSVGCASELNHRACFSLPLMLGFQAPI ATHQWLFVSRNDKNTLDTPRSAGCDGA HRPRQEPAPDGPVLLCLEMPAPGSYPG GAPVSGHRQVHPQWQVQHLGQSGGIR TGLGANCGKSHDSAYKKGGDVCFPGEM VPVVHQLKGVQHPNKCGRHWGTLVQQ KQPWTGSRGPTADQLHPKNSSLTLVFPS R*
4684	12735	A	5577	171	1631	GLPQAGADSDPRTRPFLLGGLPLPSPR PYP*PAARCWWASDFPERGKRLRAHSS FPVPA/PPMRPRTVPVRAAPHPSPFTSV PSTGIRHLPAEGW*TGQ*RNTPNKSRRR LSPLVTPGSCRSSPTQSPGPSGTTVEMPA RRWCAGATGPATSP/SSLKVKETGLPST VQAVSELLQVLLCKQKAGGCTPDQGP TSKVLTEAS/SSAPHLQNVLAARSISDN IPLGTATLTPAATAATP/EASPLHQAWQ PS/TAMASPAITPWPHYPCQLRMSGLLP CPA*NAPQAAVSVPPAE*RLAALWVH VLRN*TTGPASHCH*CSASKPPSPPTNGY SVSAMTRTPWILPDLAVMVLTPGPKSQ PQM/RPIVLLCLEMPAPGSYPGGAPVS/ AA*AGTPPAVAGAASRAVGGHPRPGC KLRQIP*FCIQEGWGRVFSRGNPCRASD SQRGPAPKQVQGSGLDGTGATEAALDWE SGPHCRPAPP
4685	12736	A	5578	718	2209	IPSACFLVLLPSWWLVVAAHGSPLGRVA LDQAFQWTRVRGCSACGKGCAPAG/PQ AQRGSGRSWAWDAGP*RSVWGPLG*TQ PAAAL*P*VSPFVAGKGLAPTLVGTAI QSILOGLILSWNPGGEPAG*RNDLGAGG RACCPDEDDQIRGGAVLAEVT*QCSCSP MPDAAHHRHRVRVGVSGAAVCPQWEL GGHGGNARPDAGRGVLRSCRGTRNLLT AEGFMPHASVCIQSKSG/TSQTQHCPGV HCTWQSCPLPSAPLLGPILLSRTVDTGEE GHPVDASWTPSTPREPGRWAHCLPQRK P/PLGPAREASVPPAHSPTVAGEAPPVIS HFR/SPAPAFGICRGPAGATEALPAPRA DAPVKAAP/PAHTGAAS/EPARHVRPFPT ATAPFTFPSAVHKGSFSTSLQTLVIFCC VLMVAIPMGVRWHLTVVLWNLAVISR VPISVCLDLSFISVPCPLRCWCWWNRV SPKLASPGCSECDLGGQMRVMVSSHFSV E

4686	12737	A	5579	2	354	LPSSWDYRRPLIFVFLVETGFNMLARM VSIS*PLDPPDLASRSEIIGVSHRAWLIL S**KGERKSTNVSHKEGLG*WSRATVLQ VYSVGFWEVFPQGCPSQSYFHNNTNM LFAF
4687	12738	A	558	442	626	VEEGGSEAGWALRIKCVNGVSPKL/VLQL LHFPQIFNGSFVKLNKASVNTLRIVEPYIT WST
4688	12739	A	5580	1	1263	MAEEQGRERDSVPKPSVFLHPDLGVGG AERLVLDAAALALQARGCSVKIWTAHYD PGHCFAESRELPVRCAGDWLPRGLGWG GRGAAVCAYVRMVFLALYVFLADEEF DVVVCDQVSACIPVFLARRRKKILFYC HFADLLTKRDSFLKRLYRAPIDWIEEYT TGMADCILVNSQFTAAVFKEFKSLSHID PDVLYPSLNVTSFDSSCS*KAGMT*SPRG KNSWLLSINRYAREGKIWTGLTGKALV QLRGRLTSQDWERVHLIVAGGYDERVL ENVEHYQELKKMVQQSDLGQYVTFRLS FSDKQKISLLHSCTCVLYTPSNEHFQIVP LEAMYMOCQPVIAAGNSGGPLESIDHSVTG FLCEPDPVHFSEAIEKFIREPSLKATMGL AGRARVKEKFSPEAFTEQLYRYVTKLLV
4689	12740	A	5581	200	705	LSQTL/TVLYPSLNVTSFDSVVPKLLDDL VPKGGKFLLLSINRYERKKNLTLALEAL VQLRGRLTSQDWERVHLIVAGGYDERV LENVEHYQELKKMVQQSDLGQYVTFRLS FSDKQKISLL/RQLARVCFYTPRQ*GTL GIVPLGRPCYMAVPQFICCLIRVGPFGSSI
4690	12741	A	5582	1	259	ERGSRSIARLEC/SG/AISAHCNFRPPGSSD SSPSACRVAGITGTRHHPQLFFVFLVEM GFHHVA*DGLKLL/NFMIHLPQPPKVLGL QV
4691	12742	A	5583	94	395	PIIITYFEFLNGYIISQKIKFSHHQLQKIDFL P*TWHLFLIEQR*NILMEGNQFSVTDDVK ILFSGKLYSHSKIQSMML*LVTRE*CYMF NCNICLLSFSSLSVIINDLQNP
4692	12743	A	5584	3	270	FFEAGSHSGCPGWSESGAJIAHCSLDLPG SSNPTSAS*IAGTRSMHHHAHLIFVFLVE TGSPYVVQPSLKLARVQAILPPRPKVLG LQA
4693	12744	A	5585	13	775	YSVRGLVPAERRTPYPGSIVAPADGMVY ALEGMGPDAPQAQVRVYEP RRDCWLS LPSMPTPCYGASTFLHGKNIYVLGGRQG KLPVTAFAFDLEARTWTRHPSLPSRRA FAGCAMAEGSVFSLGGLQQPGAPQLIYS RPHFVNTVEMFDLEHGSWT/IIAPQPAHE G*EGQTLWLGPLGATLWPLGALETSHVL WALLESFSLARRRWEALPAMPTARCS SLQAGPRLFVIGGVAQGPSQAVEALCLR DGV
4694	12745	A	5586	1	936	
4695	12746	A	5587	1	1023	
4696	12747	A	5588	3	345	LNLLMYFRDNVSFCHPGWSTVM*S*LA AASNSWVT*SSCFS/LPSSWD*S*LPPCP ANFFFF/CQ*RQNLIMSSRLVSNLSLQPV MLLPQPLKALGLYRVSHHASVKVFNVL NM
4697	12748	A	5589	1	430	GDGVLLCRPG*STVALSQFTAISASWVK RSSCLNLPSSWDYRCAPPCPAKFCIFSRD GGFTMLARLVNSNS*PQMIHPPWPKVPP LPACVWYFSMACNFLYTPSFFLRLFCQQ PKMEKAALCQGSPKTVKSCSQMFTFNF F
4698	12749	A	559	3	398	

4699	12750	A	5590	3	389	GVSPCWPGWS*TPDLK*STRLGFPRCWD YRLLEVDPCCTGHSLYL*KDPPVLPPLAEG CDYQKGKEYALSSCCDKSYLLPDYRTKFL CCHPERGTWKLGTVGGCYAPIQSFGIAD EQAWLQHGSGAVYLC
4700	12751	A	5591	3	53	
4701	12752	A	5592	363	777	DMRPQLCSVDNHREQRAEFINIYQHQQF FLRQSLTSVAQAGVQWCSLSSLQPLPTG FKPFSCSLSSWDYRHMPPSLANFFCIF SRDRGFTMLARLVSS*PQ/CDPPALASQ NAGITGMSHHA WPTPTFSYLLNTQD
4702	12753	A	5593	3	85	FFFFFLMLHNNVYLVHLFTISYKHFIIV LYKQQKFITYVY/TFICLLVFQFQIILLES FPFLKIJLL*SL
4703	12754	A	5594	1	281	FFFAPETESYSVARLECSGTILVHCTLCL PGSSDSPASASQVAGTTGACHHTWLILVI LVEIGFHHVGQAGLG/IS*LQVIRPPWAP KVLGIIG
4704	12755	A	5595	2	369	FFLRWCFALVAQAGVQWQDLGSLQPLP PGFKRFSCSLSPSS*DYRCPPTRLANF/SV FLVEMGFHHVSQAGLELLTSGDLTTLAS QSAGTTGVSSRAWPDLYLFSYLIEKTSPF KFSIPFHLEI
4705	12756	A	5596	432	1490	KKGCGKPGELCGCMPSSWKNAYCPTAQ QTAQEYLSSPCGSAAPCLP/DRASSSSRS VEASSLDAPGTSAAGSPSPRPFGEYH HPGPGANNEPTPPAESIVVPSWP*GCHSS VAVEKLSLAPGTPT/SDLPLDSSMNRKA PIPVFGLSASSLLPLKDARASETSSR*TH Q*FFGKDVH*TQNSLAQSLQHSSGPQLL WGKTGNSQSSFPQAG*HSRHKEGCWRE PSHKPLEPHSLSQHHGTASSARIPEVPPP HSLGHSPACAWRSSSPRPPRLAALPGC RRRRGAGSSHKAPDRSTARPGRCRRR GRRGARRGCGGSGRGPSSGQRSESAP PAGAHTRLQPLRSHSLH
4706	12757	A	5597	1	2163	MARMSFVIAACQLVLGLLMTSLTESSIQ NSECPQLCVCEIRPWFTPQSTYREATTVD CNDLRLTRIPSNLSSDTQVLLQSNNAIK TVDELQQLFNLTEDFSQNNFTNIKEVGL ANLTQLTTLHLEENQITEMTDYCLQDLS NLQELYINHNQISTISAHAFAGLKNLLRL HLNSNKLKVIDSRWFDSTPNLEILMIGEN PVIGILDMNFKPLANLRLSLVLAGMYLTDI PGNALVGLDSLESLSFYDNKLVKVPQLA LQKVPNLKFLDLNKNPIHKIQEGDFKNM LRLKELGINNMGELVSVDRYALDNLPEL TKLEATNPKLSYIHLAFRSVPALES LM LNNALNAIYQKTVESLPNLREISHSNP LRCD CVIHWINSNKTNI RFMEPLSMFCA MPPEYKGHQVKEVLIQDSSEQCLPMISH DSFPNRLNVDIGTTVFLDCRAMAEPEPEI YWVTPIGNKITVETLSDKYKLSSEGTL SNIQIEDSGRYTCVAQNVQGADTRVATI KVNGTLLDGTQVLKIYVKQTESHSILVS WKVNSNVMTSNLKWSSATMKIDNP HIT YTARVPVDVHEYNLTHLQPSTDYEVCLT VSNHQQTQKSCVNVTTKNAFAVDISD QETSTALAAVMGSMFAVISPASVAVSFP KRFRRKNYHHFIKKVLWQKTS/SIPLNE LVPPLI*PLGKVDSEKDKGSDTKPTQ VDTSRSYYMW

4707	12758	A	5598	50	824	SLLKPYVVRIFTKEKSYKCECGKFHKS CSRH*NHKIIHTGEKHYKCECGKVFNH C*QLIAQKKIHAEKNSDFKECGKAFNNY YELTHQRFCAK*KQCKCNDTHYIYLWK DVTK*KP*STQGVMIHYICTWKDFKNI SLRVHKSFYTEEKHYKYKDCCNTFTYVT DFVVHRRYTER*PSNSCSNFIPF*IIYIGK KPYNCNEYEKNCLKSTP*KTLV*GRARW LTLIIPAPWEAKAGGSRGQEIETTMKPCL Y
4708	12759	A	5599	1	2043	
4709	12760	A	56	939	1603	GHSANWWLGPEENPALPTPELVSPPRGC RQSSRPSLRRHKEEKAK*KSPQPTILRPPP APPTGSLQAPKGGARPPSRPPPPRPAA PNPRLPPPPSPPE/PGRSSCPAPPTTRTPR VQSQTHRPPPSAYEKKDAARAPTATGR APRRPGLRPKSWMPEQEKEPPTDRSIDR TPVPSPYQTREGGRAPRASSI*GPDSPAT RQDGSSGPHRSYRPGCVAR
4710	12761	A	560	1	960	IMATSATSPHAPGFPAGEGRCGYVEKKK RFCRMVVAAGKRFCGEHAGAMEEEDA RKRIPLDPKHTVYEDQLAKHLKCNCS REKPKPDFYIQDINAGLRGETEIQEL/CL NSTLTDHIMSHPALHDALSDPINGDSAT KHLKQASNLGNIENLKLGPRLCFVEF GAGKGLSHWVDIALKDAEKVHFILVE KVTTRFKVDGKHKNSVFERLQIDIQH LCLNKIPVLRKLPVVGIGKHLGCMAT DLALRCLVETYAASFEERNEEPLAKRIK NDKTEKEIYTLAKEGNEKNVPEKWNPV AGIVIALLCCHRCW
4711	12762	A	5600	18	403	FCIFSGDGVSPCWPGWSRIPDLR*SACLS LPSSWDYRRPPRSANFF*FLVKTGFHH VGQAGLELLTSGDPPASASLSAGITGVSH CTRPMYAFLKQLNFHIDKSDYRLYRKL YLKATTMVRYAFL
4712	12763	A	5601	2	497	ETESHVSTQAGVQWCDLGSLOPPPPRLK RFSCLSLPSGWDYRHVPPHLANVCIF**I WCFTMFARLVFNSRRTPSDLITSAS*SAG ITGVSHRARCIFYFYFVAEMVRMCSF VTQVGLFVALSDLPWPVKVLGLQA* ANSAWPVFCNSFFHSHLNAFPN
4713	12764	A	5602	3	303	LSCFPQATFFFFIF*DRVLLCPGRSTVVQ SQLTAALTSRAQGSSCLSLPTKWDYRHV PPYSAFFLVLDKSLALLPRLVLNSWAQ AILPPQPPKVLRLLA
4714	12765	A	5603	122	525	QFFFFEIGSLVAQVGAQWRISTSPLOPW SPGFK*FSLSLPESWEHRPMPQGLDNFC IFVETGFRHVAQASIKLLGSSDLPALASQ SAGMTSMHHAWPIVKNFVCIYYVPDIV LSMLSVKSIHINHVRGLQ
4715	12766	A	5604	1	198	LTGRL/SKCEVVSWRFDVQLKDLKRWQ NHLLLSQLACIVLTSAGIMDHKEMR*K HTGGKSLGFFF
4716	12767	A	5605	156	1047	VPAGEARVQWHDLSLQPPPPGSSDSP ASSSRVAGITGIKTNTICKKCAQNVQLYG TPKPCQYCNIIAFIGNKCQRCTNSEKKY GPPYSCEQCKQCAFDKDDRKVDGK LLCWLCTLSYKRVLQKTKEQRKHLSSSS RAGHQEKEQYSRLSGGGHYNSQKTLSTS SIQNEIPKKKSKFESITNGDSFSPDLALD SPGTDHFVIIAQLKEEVATLKKMLHQKD QMLEKEKKITELKADFQYQESQMRK MNQMEKTHKEVTEQLQAKNRELLKQA AALSKSKKSEKSGAITSP

4717	12768	A	5606	156	960	VPAGEARVQWHDLSLQPPPPGSSDSP ASSSRVAGITGIKTNTICKKCAQNVQLYG TPKPCQYCNIIAFIGNKCQRCTNSEKKY GPPYSCEQCKQQCAFRKDDRKVDGK LLCWLCTLSYKRVLQKTKEQRKHLSSSS RAGHQEKEQYSRLSGGGHYNSFSDLAL DSPGTDHFVIAQLKEEVATLKKMLHQK DQMLEKEKKITELKADFQYQESQMRK MNQMEKTHKEVTEQLQAKNRELLKQA AALSKSKKSEKSGAITSP
4718	12769	A	5607	1	354	ETEFPSCCQAGVQ*HDLGSRQPLPAGSS DSPASASRVAGITGMHH*SRDVLIRILEL EEGLELCPHFVSRNLPKTGQILTLMLSLA PVKLAPQPKLSWMELTRHSRLWAALSG GGQV
4719	12770	A	5608	3	403	YIFSRDRVLPFCFGWSQTPGLKQ SARLCL PKCWDYRREPPQLAED/SYFQFRASLKM TL*GIVSMV/PLLQKLLWMCKAQGNQAE EGTGVALPEREASSWSCLLQLPFPVDEP CSSFKRRESEKEPSPNGFPNLNI
4720	12771	A	5609	340	1015	VGSVEEFQGQERSVILISTVRSSQSFVQL DLDFNLGFLKNPKRFNVAVTRAKALLII VGNPLLLGHDPDWKV*APPPHSPS*WP QPLPRAGGSFLSACL SLS*SSDV SIFTASL LYL*VK*HPEVEQVQLRWDRTVA*PPVS AGHSSVPHRFLAEFCENG GYTGCFFPAK LDLQQGQNLQGLWSKLSPTSGAPHS GLTSPREREGERGPVFCKWEPEWRNEL
4721	12772	A	561	111	349	SLDSDSGCKAYVVGDEYLPGLDLHAQP SLLKEHEEEKMFTLKG NR LPAADVKN IIF FVRPRLELMDIIAENVLSEDRRG
4722	12773	B	5610	769	809	GFPIIFHGMGKDEREGNSPSFFNPEEAA TVTSYLKLLAPSSKKGKARLIPRSVGI SPYRKQGA SEDLEIKDFEGGFSKKNSK AQERSVILISTVAKRPRALLQLDLDF*
4723	12774	A	5611	99	341	SELGTVAHTCNLILPSSGDYRRPSPLAN F*FLVEMGFHHVGGSGVELSSGDSLAL ASQSPGITGVSHRAQVPPPPFFF
4724	12775	A	5612	1	1795	MRQSHQLPLVGLLLFSFIPSQLCEICEVSE ENYIRLKPLLNTMIQSNYNRGTS AVNVV LSLKLVGIIQITLMQKMIQIKYNVKSRL SDVSSGELALILALGVC RNAEENLIYDY HLIDKLENKFQAEIENMEAHNGTPTLNY YQLSLDVLALCLFNGNYSTAEVNVHFTP ENKNYYFGSQFSVDTGAMAVLALTCVK KSLINGQIKADEGSLKNISYTKSLVEKIL SEKKENGLIGNTFSTGEAMQPSGVLPLN GCSTTTLAVACSTGHRKASRALENRCR SPA AKVTKNKRLSNCQTGQRKLRRCDN RMQCGVLDRIEQKEDISGTTSEIQIKWG VELHSVSRWRLGKVAMEMVQCQKAGY PERGDGVGAVAEGPNIKVAGGLRELETR KTALPENESSQEHAFITITLQHLVQGLAH SGYSVLSKCLLNENRAMQKHGTVWTQQ IQSSAAEKSEKTMSWDRLGRGTAHSWQ ACPVSLKKQAVEGAHQEEQCKRRDEM PGESDLVTMASGRDALLCGRCCQQA EELTITVPRLGEQREAPLPCSTPPGSTPPA AKVPRPSAAPDGPSS*SPGARRQVARPRR GQAPENK
4725	12776	A	5613	12	367	LGGASEATGASAAQPPPPPPAPRAPNPAP GPAPAQR*SALDPPLPGRAPRSFLKGPRP ATARPPG/WRLQSPLP*PESPPDTRGVRG EAPAPADPAAGPRKSKSDCLAAVIRCLC RAPR
4726	12777	C	5614	231	302	MNSFLVFFPLYVQMYMLRLNFCA*

4727	12778	A	5615	194	737	EGGVCLSWCGWFGPVCCDYTPPLPEPR DGCLC/PLPKMPPAPPMLPIQQSFQPFQE RPGSPVPETASPPAGN*ISHLSEGPNTQ WSPGFKPWGVCHL*/CGHVGVPLKPAP CPLE/CCPSGCVDSGAFFQKHSPSGSGPE TAAGPSHLNDNWQRLGFYELLSGIFCRA PNKCICYVSIFVLK
4728	12779	A	5616	2	360	PRVRDPRVRPRVRRRIYKPLRTRDELQ FLDKMDDPDY/WPAVDFFSGDVMHPVT NRPADKRSFIPSLVEKEKVSARMGHAIKM GWIQPRRPRDPTPSFYDLWAQEDPNAVL GRHKMHVPA
4729	12780	A	5617	1	2072	DSGSDSSEDDDEGDEEGEDGALDDEGHS GIKKTTEEQVQASTPCPRTEMASARIGDE YAEDSSDEEDIRNTVGNVPLEWYDDFPH VGYDLGRRYKPLRTRDELQFLDKM DDPDYWRTVQDPMTGRDLRLTDEQVAL VRRQLSQFGDVGFNPYEPVDFFSGDV MIHPVTNRPADKRSFIPSLVEKEKVSARM VHAIKMGWIQPRRPRDPTPSFYDLWAQE DPNAVLGRHKMHVPAPKLALPGHAESY NPPPEYLLSEERLAWEQQEPSEKLSF LPRKFPSLRAVPAYGRFIQERFERCLDLY LCPRQRKMRVNVDPELIPKLPRPRDLQ PFPTCQALVYRGHSDLRCLSVSPGGQW LVSGSDDGSLRLWEVATARCVRTVPVG GVVKSVAWNPSPAVCLVAAVEDSVLL LNPALGDRLVAGSTDQLLSAFVPEEPPL QPARWLEASEEERQVGLRLRICHGKPV QVTWHGRGDYWPLVLA PRGHTGVLIH QLSRRRSQSPFPCTHV*VHRVAFSPARPF LALVGPQRSVRLAYHLALRQELTKKMPA NCKWVCQPGGCNPAGDNVICGSYDSK LVWFDLDLSTKPYRMLRNH/HRRALLA VAFHPRYPLFASGSDDGRVIVCHGMVY NDLLQNPLLVPVKVLGHVLTROLDGVL DVIFHTQPVWVFSSGADGTVRLFT
4730	12781	A	5618	1	214	QDSALLQL*IIYPVYNLSPAGQGRDLF SCLLRHLKLPTSEGVRTQSAQAFKGP NAQTQWIYGHDPN
4731	12782	B	5619	58	280	IHCAISKIDIEKDIQAVMEETAILSTENKS EFLLDYFEEDPNSAMDKERRKSLKPK LLRLQRDIEKASKDKEX*
4732	12783	A	562	223	747	CIGKVYVWLGGVGWLQKSWGTPLFSPH PPGRPRSFAGHSPQGLGVLGGENRI LVIIFNLIYCTYLGQGLGEVEGEGSPLS APPTPFLRRFVCVAGPHPLPIPHCCLDVVL FFYRSFPSPSPFPSPHPLPLPFVSCSFLG FCTTQLVYTYTQPAKRKPNKGHFKKK KK
4733	12784	A	5620	2	785	HFNMRLDPLDCPYNKVYKNLKEFSQNG ENFCKQVTSVLQQRANLEISYAKGLQKL ASKLSKALQNRKSCVSSAWAWASEGM KSTADLHQKLGKAIIELEAIKPTYQVLNV QEKKRKSLDNEVEKTANLVISNWNQIK AKKKLMVSTQET*STFPSL*ESS/ARQSM TEKEKRKLLNKLTKSTEKLEKEDENYYQ KNMAGYSTRLKWENTLENCYQSIL/ESW RRKEFNFYAITLNQYSQHISLFGQTLTTC HTADSLCHQQD
4734	12785	B	5621	13	543	MFLAPIAVSVRRFFXVKASVYAYTMFFS TFYHACDQGEAVLCILSYDTLQYCDFL GSGAAIWVITLCMARLKTVLKYAYRCG HRRQCYPTLWQRWAFYLLPGVFMAVSG IAIYTSMMTSDNYYYTHSIWHILLAGSA ALLPPPDQPAEPWACSQKFPCHYQICK NDREELYAVT*

4735	12786	A	5622	1	1798	MLCFYAGSCRHFRSGAPPVINPLGTSFPD DTAVQPSFQVGVPLSTTPRSNASVNVSH PAPGDWFWAAHLPPSSQKIELKGLAPTC AYVFQPELLVTRVVEISIMEPDVPLPQTL LSHPSYLVKFVVPDYTRELLLELRDCVSN GSLGCPVRLTVGPVTLPSNFQKVLCTCG APWPCRLLLPSPPWDRWLQVTAESLVGP LGTVAFAVAALTAACRPSVTVOPLLQS SONQSFNASSGLLSPSPDHQDLGRSGRV DRSPFCLTNYPVTREDMDVVSVHFQPLD RVSVRVCSDTPSVMRLRLKPGMDSGGS LTISLRANKTEMNETVVVACVNACLAL PLALISLNCCTTAFFQGYPLSLA\GSRRA NLIPYPETDNWYLSLQLMCPENAEDCE QAVGPRWEDHLCTWGALF*TDCGPYQG C\SLRRHSYLYASCCKAGWRGWSCTD NSTAQTV AQQAATLLLTLSNLMF/LGP PSPSSVRRFFLVEASVYAYTMFFSTGCG VGGQDRAHGASPFQFYHACDQPGEA VLC ILSYDTLQYCDFLGSGAAIWVTLCMAR LKTVLKYVLFLLGTLVIAMSLQLEPQGH VEHLGGPASLPS
4736	12787	A	5623	121	291	AFCFPKYELTINFKNFQLGVVTHACNPSI LGGRRGRIT*AQEANLANMAKPCLLNK
4737	12788	A	5624	571	690	CQQGSFLQAYGPAQHAISMRFKAKY PDYEVTWANDGY
4738	12789	A	5625	130	943	
4739	12790	A	5626	45	473	GIPGRRNMAVADLALIPDVIDSHGVFK YVLPSPGLPAPGIRPAESKEIVRGYKW A\GHADIYDKSVGATCRKQGLRTVSV WTAGPHLPTKSPGQERFT*YG*FHGPMV LPKNANFNLRKSKAKYPRLTEVTLGLNR PAT
4740	12791	A	5627	3	348	TLRLTHLTDTHQ/HSYSYTHTEIHTPHT PHTETQTH*YTYALQ/PLRSHLIFLRQSRP QNGNAPLCEFSHPSPDLQTLHLTSVV VKIPSTSLLMCRSSGGAQCRESLDQHEG VGP
4741	12792	A	5628	3	331	FFEMESPSV/SQAGV*GPNLGSLOPPPPQ FKQFFCLSLPSSWDYRRTPPCPANFWIF* KDGVSPSWP*WSQSLDLGLFKFYFFKET LILCTQSSTTTTTKRTRSSHR
4742	12793	A	5629	3	336	SHSVAQAGVQWHNLGSLQPPPPAFK*FS CLSLPSN*YRRPPPPPADF*FLVETGFS HVGRAGLKLLTSSEPPACASQSAGITSVS PPCRAHTFELIPLCPFLFWPLFCP
4743	12794	C	563	238	267	MQINSQMER*
4744	12795	A	5630	1	267	EMESCSVTRLECSGAILAHCNLCLLGSS DSPASAS*VAGITGMCHYTRPTFLFLVE MGFCHVGQAGLELLTQVIRPPRPKVLG LQA
4745	12796	A	5631	3	521	FSFFFFPAFKMSNRGRGGSLLAGRKFPDF PLGPSGRLL*SNWCLTNTRSPKTYIHLF *RGNQGDRLDQTSPLLGVGDMVMAHS/ VKKGKPELRKKIVHPSSGSFRQPKVHY* EKMVGVLFFEG*LQGVIVEPFKGRDGK VSCHLPGTQLGKGSFADFVAPGICPMP WQPLH
4746	12797	A	5632	3	216	DRSHSVTQAGV/Q/WCDLSSLPPPPGLK *FLCLSLSSWDY\GAPPHQTNFYIFIRDG VSPYCPGWP*TPSLG
4747	12798	A	5633	1	412	IIRSKNI*YLEINPTKHTKTFSKTLTK\EMK EDLN*WQENPCSWIGSVSIVKMSVLSKL IHTEIQCNRNKYPQIGLLLP LLLFLLDR LVLKFTWKGTGPRMAKAILRKS/SEDLT LTYINTYYKATVIKLVGAKPD



4748	12799	A	5634	276	2588	NKHFSFQTPKKSHQKSLSFSTTPRRISH TPQTPLYTPERLQKSPAKMTPTKQAAFK ESLKDSSSPGHDSPLDSKITPQKRHTQAG EGTSLETKTPTPKRQGTQPPGFLPNCT WPHSVNSSPESPSCPAPPTSSTAQPRREC LTPIRDPLRTPPRAAAFMGTQNQTHQQ PHVLRAARAEPAQKLKDKAIKTPKRP NSTVTSSPPVTPKKLFTSPLCDVSKKSPF RKSKIECSPGELDQKEPQMSPSVAASLS CPVPSTPPELSQRATLDTVPPPPSKVGK RCRKTSDP/MKEAS/SECQLDASATPGVG TADSPAAPTDSDRDDQKGLSLSPQSPERR GYPGPGLRSDWHASSPLLITSDTEHVTLL SEAEHHGIGDLKSNVLSVEEGEGLRTAD AEKSSLSHPGIPSPSPCGPSPLMPSRDV HCTTDGRQCQASQDLNLPASAWHSTD SASPQTYEVELEMQASGLPKLRIKKIDPS SSLEAEP LSKEESSLGEESFLPALSMPRAS RSLSKPEPTYVSPPCPRLSHSTPGKVTGGK PTSARVPVPT/SPSSTPSFQTDGVPWTP SPKHSKGKTTDIIKVTGPGGRGRWAVAPA PLPGGARSVQPSWEPVTA*VRGQGRP* TQHPQDAHLGGF*ARGSVAPRPVASQE /ACLPRKPLPGDSL*VPGRESCWPRK KLTVEPKGSVT*EKIQKLVRVKRGLQVG VHGSYPPRETKRCLFPAPPHLPAVPCGAP SPASALQALTQSPLLFOGKTPSSQSKDPR
4749	12800	A	5635	29	268	ILINHFFLESCSVAQAAVQWHNLSLQPP PPGFK*FSYLSFLSS*DYKHAPPRPANFCI FSRDAVSPMLASWSQTPDLK
4750	12801	A	5636	2	118	
4751	12802	A	5637	1	262	ETDLALSARLECSGVTILHRKLRPLGSR HSPASASQVGGTTGARTTPG*FFVFLVET GFHRVSQDGLDLL/NLVIHPPWPKVLGL QA
4752	12803	A	5638	3	309	IDTTFEEEEEEFETESLSVTRLECSGAIL AHYKLRPLGSRHSPASASRVAGTTGARH HARLIF/VYFLVEMGFHHVSQDGLDLTS *SGPPRPKSLGLQA
4753	12804	B	5639	49	754	MAGAAPRLPWSRPHGSCGWWMQPLQ GPGRRAVAAAWEVATPVFMPVGTQAT MKASRPNSWTLWVAASAWELPSGSK AGGTAAPFDGVAGVSVRGDGGGLRFRS PYDGNETLLSPENPCSRMRWAPGVVT GALLQVNPLAGPVHAAHQRPDKQNLFA IQVGWTOISGPPALKRFGSAWHSRAFLT HCCTVTTRPRCTTSRPQHRLPAELMSAV RTSIVEKRFPDSCGTSWAPX*
4754	12805	A	564	549	848	LFFPHSQSTKVFSTYEQIMCVVFLFFCF FVFPETGSHSVTRLGCSGVIMAHCSFNL PGPSDPSTSASQVAGTTGVCHHAQLIFKF FVEPGQHTIETPSL
4755	12806	A	5640	3	906	TVKMAGAATQASLESAPRIMRLVAECSR SRARAGELWLPHTVATPVFMPVGTQA TMKGITFAEFLDALGCRICLGNTYHLGLR PGPELIQKANGLHGFMNWNPHLLTDSG GFQMVSLVSLSEVTEEGVRFSPYDGN TLLSPEKSVQIQNALGSDMMQLDDVVSS TVTGRVVEEAMYSIRWLDRCIAAHQRP DKQNLFAHQGLDADLRATCLEEMTKR DVPGFAIGGLSGGESKQFWRMVALSTS RLPKDKPRYLMGVGYVVDREARALPVG SGFLGTPYPAWGGGIWKGRTQV

4756	12807	A	5641	379	677	EGLRP/ELQNLFAIQGGDLADLRATWP* RDDQARNVPGFAIRGALSGE*EQSREF/C AGWLAAEHTLG*PKDKPRYLMGVGYAT DLVVCVALGCDMFDCVFPTRTARFGSA LVPTGELQLRKKVFEKDFGPIRPGCTFP HVPKAPARAFLHATAAQ*QHGPCRTILT VHNIAYLQLMSAVRTSIVEKRFPDFVR DFMGPMYGDPTLCPTWATDALASVGIT LG
4757	12808	A	5642	2	335	AGVQWPDLSLQPLPPGFKRFFHLGLPSS WDY/RVHEAPRPANFLKFLVEMAFCHV GQAGLELLGSSDTPVLAFAQSGITGESHLA WPVFNF*NGSFNVFSLRVINEHLALHL
4758	12809	A	5643	56	571	YYQNPPKKKLAASCSLSPVLQVLKSLKG EVLPLGETQHYFPLNRELRLLTQHFLLL MPLSQ/QTSKAGTIIARLIDPDYQGRTKF KIRNGKKILNGRRKEIAWNVGFSIT/PCLL WKVIGILEQSNMAIYWYIHPRMKV*ASP PGKEQRPFEVTPEGQRNMEWLEERNG RCLP
4759	12810	A	5644	2	1085	RWSDYVERYMNSDTSPELREHLA/QKP VFLPQGE*AMSIQCVHTVHD
4760	12811	A	5645	387	533	RWSDYVERYMNSDTSPELREHLA/QKP VFLPQGE*AMSIQCVHTVHD
4761	12812	A	5646	1	169	VFLVETGFRLLARLALNS*PCDPPASAS QSVGITGESHCARP GTILMKHRGQLCT
4762	12813	A	5647	2	369	FLRWSFTLVAQAGIQWCGVSSLQPLPPG FKQFFCLSLPSSWDYRCPPTNF*LLV EMGFHHVQAGLELLTSGDLPASASQSA GITGISHRARPGTLFF*AVNGGNGQVFLF LRVLNGL
4763	12814	A	5648	1	340	FRPQSC*CPPADSRLFPATPEAVLSLLVK ASPPPELPRSPPEKPTGLSGGALG*QRFSR AARNRGDPLTRKNSKITSLLSFLQELTKA LEQKPDDAHILSSKSLSSHSSWELL
4764	12815	A	5649	2	660	RPPAPAPGPQGPWPQGPYP*AESPPARS RTPHASQLPRCGPRPTADPSSAPSRRLRP TSRSRHCFAAGS/PGTPPQPPSADVRRV PPFSPLSSRW*PFPQSC*RPPADSRVRSR PPLRPSFREL*KPARPQSSSVASREAKGPL VERQVDSVLAGPRETASSFATRPCATLP GKVTANCKPPQKTSGQLLVRGLSRVA AYSSPFFGAPEIGEEMPI
4765	12816	A	565	178	375	ANFIAGVWSQSRFHALALHIIQQGSKKV P*ANFIAGVWSQSRFHALALHIIQQGSKK VPIVSKLENDTAARHELFAEWKQCSE KKAQAKGWRQW
4766	12817	C	5650	19	153	MKMTSNFLLFSSGIFSSTFIHLDPVLEL QTQNTVMGCLMRIHP*
4767	12818	A	5651	2	306	ETKSCSVA*AGVQRRNHGSM*RQPPGSS NPPISASRVFG/ITGICRTHLIFLFFVETG SHYVAQGSS*TPEAQVIRLHQPPKL/VFF YIFQLFLCFLVCY
4768	12819	A	5652	2	760	FFFFWSENDGHLDTGARFAPDRRHTGV GRTKDTQVGYRCHTAPARARGGWGED GCLAS*PGVRVKSRWSVPGAPGRGGQC HNPSGFPT*PGGRHRKQPRPGARVLQAG GQQQAFPLAGWHLSPGYWLSTPWAC KGLGVVLSVTPLPPRSPWVG*GLGSR/Q AVEGRAAQGRYLSFCPGTQW*WPPSAPI PTGT*SEVAHTKGVPGEPPAARGLRT LTLAVGGLPGSRLVQHPKRYRALQALT SCFCSA
4769	12820	A	5653	1	834	

4770	12821	A	5654	674	1268	PRDLPASASQSAGITGVSHRLRFYFDHQ DVAPECGAYFFHELAKERKGV**NTL LAKMVSIS*PRDLPASASQSAGITGVSHR LRFYFDHQDVAPECGAYFFHELAKERK KGVRLKMQNQRRGPAVFQDILKPGQ DEWGKLEAMEAAMAPGKNLNQSLD LHALGSAPTDPHLCDFLESHFRDEEVTF MPRKSADLHAAGEAASLGGVSLNVMK GASLHALCLRLNSFGPGVATLCGERVV HKNNRASALRKCFWP
4771	12822	A	5655	2	612	RYDFFFFFFFVTESSRG*LQSQAGVQ LRDLGSLQAPPPRFTPFSCPASPSWDYR RPPRPANFFLYFYS/MRRGFTVLARMVS IS*PRHLPALASQAGUTGLSHCTRLFF* WMESPSVTQAGIQWHDGSLQPMPPQF R*FSWLSLPSSWDYRRPPRPADFCFSR DGVSPC*PGWSRSPDLVIHPPWPKVLG LQA
4772	12823	A	5656	140	261	RAEPHLANHILFF*DRVSLCRPGWTAM A*TWLTVASTSRAQAVLPSPASPS*DY RHVSPHPLIFVFSFLIMLSRMVSNWAQ GILLPWSPKVLELQA
4773	12824	A	5657	79	358	AGVKWGDGSL/QPPPPRFKRFSLPS SWGVRHAPP*PG*FSVFLVKTGFLHVGO AGLELLTSGDLPVSASQSAGITGMSHCA WPTKALISK
4774	12825	A	5658	2	350	SQVDR*QSEPIRICREDHMERLQAFDA NSRKQEAWEKKAKELEEWYARQDEQ LQKTKANNRVADEAFYKQPFADVIGYV EEAFVNDIDESSPGTEWERVARLCDFNP KSLD
4775	12826	A	5659	3	752	HRCGVGGSVGFCLTVGVRAVQLPAMAE LDPPGAPAGAPGGPALGNGVAGAGEED PAAAFLAQESEIAGIENDEAFAILDGGGA PGPQPHGEPPGGPDAVDGVMNGEYYQE SNGPTDSYAAISQVDRLQSEPIRKWRE EQMERLEALDANSRKQEAWEKKAINE LEEWYARQDEQLQNTKANNRVADEAF YKQPFADVIGYVYVAKLIPSTSDSYFC LELMLLLCHKLLCFLNYFKLALWGLPKN
4776	12827	A	566	656	874	
4777	12828	A	5660	1	348	NSLGEANALGNQ/QPITQNVCPRLAMQ APGMAPSPSFIMNTLEVRKAFLKRFPWM SAPIQVGLVGFLVFATPLCCALFPQKS SMSVTSLEAELQA*DPKRAHPVELRRVY FNKGL
4778	12829	A	5661	3	430	LRQSL/DSVAQAGVHWRDLGSR*APPPG FTPSSCLSLPSSWDYWHPPRPVFLYF* ERRGFTVLARMVSIS*RRDPPASAPQSAG IIGM/SHRARPOILFFIHFSTVSAGINES*V CFYCIILEVPSKEGILES*CISEAAH
4779	12830	A	5662	3	756	GAISAHNRNRLFLGSSDSPASASQEHWGT ETLAH*RSQLTATSASWVQVILLPQPPKN TGAQKHWPTEGEAKEHCVSDDSESTLK AGGQHRIKQGGNSSSGAREPAPNILNSR RSWWTLVAKAAAVTVIIRVILMAAILRG TLAKEVNWVLDLTDKNEAADPRAR HKDSPSPHQTEPSWLHSVDPPTGPQVE LPASPTMCAGTSQPLVSRWDWSPWSRK RHIIFAPSSHNKYAGESFPGIYDAIFDIEN KANSRLAWKEVKKHISIAAFTIQAAAGT LKEVL

4780	12831	A	5663	2	773	LANFCIFSRDGVSP*WSGWSRTPDLR*ST RVGLPKC*DYRREPPHPPGLLPVFSSHFA FGLFQRRRLFCFFAFLRQSLALVTQA GVQ\WHDLGLSLQPPPGFK*FSCLSLLSG WNYRCVPPRQANFCIF/M*RRDFTMLAR LVSNS*PQ/CDPPTSASQSAGITGVSH/H/A RLAFVS/CYTHHTHTHTLA*IPFPSVFP NSLSPPLQQGFCPHHCTELTSYLIKITNPV HVIRPNGHSALCILVQVSAPLHWSLSPLE
4781	12832	A	5664	2	415	LDPGSLAGFTSYIQFMYDEFVEEYEPTK ADSYRKK/VAQDGEEVQIYIINTAGQEDY TAKDNYFHCVFSITEMESFAATVDFKEQ /ILRVKKDENIPFLLVGNKSDLEDKQVSI EEAKNRAD*WNVIYVETSPKT*AN
4782	12833	B	5665	151	1312	MMGGRLLTGGIPGEAAVWGCSRFPSTAP SVFPPPPAAAAAAAVSSGNLRLHPGQV PRVVLRSREGGLAPRRGCPKSGGSESTR VPRAGPRGESTGDRDPAPPGPPSSSHHF SPLRIERKADKPPENSGESSHDVASREQP LVLLAEHFRWAILLACHSMPTVGRKQV NNEIKTEIKKFETSENKDTTYQNLWDT AKISFPDFSYNFFMPISVLDAGGGSETA KHHHQDVHEIQPHIEPQISLGSFEHPFGS CTIKEGTYRKRVLVDGEEVQIGILETAGQ EDYAAIRDNYFRSREGFLCVFSITEMESF AATADFREQILRVKEDENVFLLVGNKS DLEDKRPVSVEAKNRADQWNVNYVE TSAKTQLMLTRHKPGTSSQX*
4783	12834	A	5666	3	955	LLLLLLLLLLLLQPPRLPRHPSDSSDRSR RGAFQATRTEYPPGGATQPRLPESGRR TGSRCFFLILWRKLRLHKMAANKPKGQ NSLALHKVIMGGSGGVGKSALTQFMY DEFVEDYEPTKADSYRKKVVLVDGEEVQI DILDTAGQEDYAAIRDNYFRSGEGFLCV FSITEMESFAATADFREQILRVKEDENV FLLVGNKSDLEDKQVSVVEAKNRAEQ WNVNYVETSAKTRANVD/KEWPFLKTR WWNTCKYISSHCPAPVSRKTAHWAE VFFDLMRERARKMEDSKEKNGKKRK SLAKRIRERCCIL
4784	12835	A	5667	1	635	MAANKPKGQNSLALHKVIMVGSGGVG KSALTQFMYDEFVED*EPTKADSSRK RVVLVDGEEVQIGYPLDTAGQEDYAAI RD\NYFRSGEGFLCVFSITEMESFAATAE FREQILRVKEDENVFLLVGNKSDLEDK R/QVFSRKRQKNRAEQWNVNYVETSAK TRANVDKVFDDLMREIRARKMEDIYYL NGTKNTKRLAERIREGGCIL
4785	12836	A	5668	2	178	WGFTMLARLVLS*SQVIHPPWLPKVLG LQALGSGSLHRSFFISVKGSSGFTAPSR L
4786	12837	A	5669	208	339	RGQRLPVSRKWLLGTEEAVALR*STRLS LPKCWDYRHEPPCAH
4787	12838	A	567	718	971	
4788	12839	A	5670	73	269	DKIFFFFF*DRVSLCRPGWSSVARSRLTA TSASQFKQFSCLSRPSSWDYRHVPPRPA NFCIFSRDR/SFTMLVRLVLNS*PQVIHLP RPPKVLGLQA
4789	12840	A	5671	1	586	KKPYECKEKGKAFSSGSNFTQHQRHTG EKPYECKEKGNAFSQSSQLIKHQRHTGE KPYECKEKGAFRSGSDLTRHQRHTGE KPYECKICGKAYSQSSQLISHHRIHTSEK PYEYRECGKNFNYPQLIQHQNLYW**N RIYEMCREAFNYGSKQNLSC**FL*IE/C/ SKHFICGLLIQPGKNNVGEILYE

4790	12841	A	5672	2	355	LFLSFLFFSFFFFFETGPHSVAQAVVQWL NHGSLQPQLSGFKQSFRLRLLSG*DYRC TPLRLASF*FFVEMGCHYVAQAGLQLL DSGDLPASASQRAGITDVSPCIWPPMSC YVKRT
4791	12842	A	5673	921	1086	TQPWYRHGGGGPKTLRQRSWSPCQAYH VPHACPSHHKNLSSRPWCPPNATNML LSLKALQPPTLLSPLP*QVCROGKNPPKQ RCRGP GATHHIPVHLWHSGWPLLHTLPA RISAVQPSFPFPKETLGQAELONRWVPL GPGKQVLRERPLSHQREKREAQLTPRLL ARRPQAGEAAARRQGKGTAEGERG**D GPSKPSLVRARVRKRAGPKQGPSASA*P GPSTPNPPTTQGSHPREQAPAPTPMSS EEPVLVSQQTARP/RPSPGTGMGVGVLK PFVSVPGALAKLTMCMPMHVLHITKTCPA AQGHGVHRMPQTCC
4792	12843	A	5674	2	70	
4793	12844	A	5675	2	118	
4794	12845	A	5676	446	756	ISFFLSFFLSFFFFFEAESRSFTQIGVCSGTI SAHCKLCLPGSHSPASAS*VAGTTGAR HHTRLIFLYF**KTGFHFRSRDGLDLL/NL VIRPPRPKVLGLQA
4795	12846	A	5677	2	276	LRWSFSLVVQAGVQWCDLGSLOPPPSGF K*LSCSLPSSWDYRSAPPANFVFLVE TGFLHVGQAICLELLTSSDLSTSASQSAG ITRREQ
4796	12847	A	5678	60	235	VRVLQIYHSLRLPGSHHPPRGDRLOGRG FLTACQPC*STYC*TFPPGVLGNTGRDLL L
4797	12848	A	5679	1	2059	MSSQEVTFEQRPEGDEGGAVELSRRQQTQ QERRRQLGQTQLMYKWAKPKICSEDL GAVKLPAAGVKTHCPPCNPFGFKTNNST CQPCPYGYSNGSDCTRCAGTEPAVG EYKWWNTLPTNMG/TRPFSVGSTSSSTR/C MTGWEVAGDHIYTAAGASDNDFMILT VVPGRFPQSVMAADTENKEVARITFVFE TLCNVNCELYFMVGVNSRTNTPVETWK GSKGRQAYTYIIEENTTTSTYCAFORRTF HEASRKYTNDAAEIYSIICHPCY*MPWAS YAGPCAQKASEEGSSCTSPAGYIDRD SGTCHSCPPNTILKAHQPYGVQACVPCG PGTKNNKIHSCLYNDCTFSRNTPTRTFN YNFSALANTVTLAGGPSFTSKGLKYFHH FTLSLCCGNQGRKMSVCTDNVTDLRPEG ESGFSKSITAYVCQAVIIPPEVTGYKAGV SSQPVSLADRLIGVTTDMTLDGITSPAEL FHLES LGIPDIVFFYRSNDVTQSCSSGRST TIRVRCSPQKTVPGSLLLPGTCSGDGCDG CNFHLWESAAACPLCSVADYHAIVSSC VAGIQKTTYVWREPKLCSGGISLPEQRV TICKTIDFWLVKVGISAGTCTAILLTVLTC YFWKKNQKLEYKYSKLVMNATLKD LPAADTCAIMEGEDVEDDLILTSKKSLLG EDQIYLOEDS
4798	12849	A	568	480	683	
4799	12850	A	5680	1	1098	
4800	12851	A	5681	143	571	
4801	12852	A	5682	3	355	FEIGSCSITQAGVQRHDLCSPLPPPGFK QSPRPSLPSS*DHRCAPPCPASFCIF**RQ GFHHVGGAGLELLTSGDPPALASQSAGI TGVSHQAWPPFGFLDRTLSIVSQKTNTN RP
4802	12853	A	5683	1	2472	RYDLALWPRLECSGAITARCNLKLLGSS NSPTSTSCI/C*GYRLIFFKFVDTGSCYV AQAGFKLPASSDPPPPKMLR/YRPGHHA R/LCLTVNRTNVP

4803	12854	A	5684	5	298	TGSRVAQAGVQ*H/DYQGSLOPPPRP M*SSHLSLPRNWDYSHTAPHPAKLFFFL DTGSHYVAQAGLKLGGSSDPSTSASQSA GITGMSHRIQPHISF
4804	12855	A	5685	9	320	FIYLF/RDGVLLCCPGQSAVAFRLTLVTS T/FL*SPDGELLTL*STRLGLLKWWDYKG EPPRPVFLFCFLNV**RCSLAMLRLVLN S*AQAIFLPQPSKVLGLQG
4805	12856	A	5686	2	438	FFFFSRLENFEFYNKPFCTNPGPRGPPR VGPPFAPRRGAFSLPQGGPF*SLLFSRPN P/SGPLVRPGLPPTGALPCSVR*VDRSLP YMVSPGPPGGLRGAGPGPVHPRGPEAP PRARGRGREGGPAESVTRFPWQLRGH FQP
4806	12857	A	5687	243	377	
4807	12858	A	5688	1	867	
4808	12859	A	5689	1	874	TVLAFADGCGVLAHGRSRSYGRLGRRP YSREPGLWSRGPFTMSDEEARQSGGSS QAGAVTVSDVQELMRRKEVEIEAQKAN YDVLESQKGIGMNEPLVDCEGYPRSDV DLYQVRTARHNIICLQNDHKAVMKQVE EVALHQLHARDMEKQARDMAEAEHKEA MSRKLQSESQGPRAFAKVNISISPGASP ASIAGLQVDDAEIVGVSGSVNTQNFQSLH NIGSVVQHS/EGGPGTHHPTFCLYFDYS RDLI*KPLNVTVIRRGKEKHQLRLVPTRW AGKGLLGCNIIPLQR
4809	12860	A	569	811	1481	GNGILLMVHHHCDAGTVIMRADRFIPGE DQKNRVLVNTVLVRISRAVDGKHLASAGI RHTVFRICHNACTQHRGLFRGFNVFGEF LRFAYILIVKENADQCAGFVGIIELGEID RVMQALPDVEQAVTHACVINQAAATGG DARQLVGYLVQSQGFNINGNRHLTTIN PVGFPAADK*GFPLMLPRVSGRNQHRIS/R VYLPCTATLLRPGNGPPSSVRPRR
4810	12861	A	5690	30	512	TPVRDMAEAEHKEAMSRLQSESQGGP RAFAKMNSIEPRLPQPSIAGLQVDEIVE FGSVN/TPQDFQSLQNNGNVQVHSEK PPECDO*SARGEKHQLKLVKNAAGPGK GALLGCNIIPSAKDELSPRGNSKQEKHPS PCPRTWVLGDFTPCSSPLKA
4811	12862	A	5691	945	1358	KKQNFYITVHGFSCCLGRGKGQDRDQW ESRDGRFLSRSLTFPQFAIIRLVGQKEFS MLPKSFTLQILPRGSLSLPDPQEQLSK*S MPHRAVQSPSRHALGNPKTAREGSAPRS PLTGRPRPPVAA*CRACRGAPQVARPP QGDQHRGFRGAHSDWRVWRGWASPSL LPRSSSSSGIANQASVPVESPGRS/RPAL GGRSGSSPCRRP/PPKPPWRGAIGS*SGT WRRWLAGWRTRRPRAPGCARPARGPP SWPSRPQTGLAAGLSGAPSVPCRRCTP RRSRPPLPARWTPPGAPACRRRPWS*SP GSTTAA
4812	12863	A	5692	3	316	FFFFFLRQSL/DSVAQAGAQQHNPGPLQA PPRFTFPSRLSLPSSWDHRRPPPCPTNFS AFPVETGFTVLARMVISIS*PCDLLTSASQ SAGTTGTSHRARPIIFK
4813	12864	A	5693	2	769	LAIYKHAGGVFSFILLQTLNTYGPQDQ KGSVLAYWRLPGLCIIYLVKQSAKDDFFS YYDINRQSVSKLAQNVEQLPPDEIKELRQ TITMPAGVDKSSDQKYVQAGRRLGKVI QQSRLNCFPLVSYIIETCLFILWRHLEY L/LHCOMPTD/SQKSLFASR/TLF*KQKDCQ GFPSPOETQS*DF*KVGLAYSEANHGF*T QLSGLMPINGFLENHYPKRNFLDIEGL/YI SKVRFFGYSFQIALVRRIRGLLRISRN

4814	12865	A	5694	189	424	<p>TLPISIYQSSPSGFHNYQFLASGVGATLPI  TPHPTS/ELPYRVSPSPSPRPPS*FSRTF  QPPV/PGPAH*PPDEIVEPG</p>
4815	12866	A	5695	243	1660	<p>AEPDTSPI*TPGQSGSS*GNTS/EPWTVTP  PGLKMQQRVLCCTL*PP/RRLPVCRPAA  G*TRLDRA*ESGHPGPAVPREATGVPGA  LPAQASVRSIWPALATCVATTVQTST/DA  EVARQG/ICPAPHPAYPPA*PALCCPARA  DPRGRVLQ**ADAVPGPPAI*AVHRAVS  HPGGAQCPHPNPAPQARVPRETCLPAL  QLAAPVLRGAGATAASAPTEEEEEACLE  EEEEEDSDEEDQSRGKDSEAWVPDSEE  RLILREEFTSRMHQRFLDGKDGDFDYST  VDDNPDFDNLDIVARDEEERYFDEEEPE  DAPSPELDGD*WPPFPPPAPSPSPTRQLI  PGLLSDPFSRGT/AAVPHNPHTPPSHWV  *SHLRQPPPLFLGFPSLPPCLLPLSLV  SVWASFCLFLSFCLSPYPRSLFPVLWLAV  SPFLPLSLCLRLCLHRRAQGESPLAGGQ  LAGPFVAGSQFGSGADP</p>
4816	12867	A	5696	7	558	<p>GWLDLGLTKVC*NAEVPTCEWVRLMC  MSVCASK/CGGGCGCLC/MASGHCECLG  MCWSL*ACVFLSKNECLCVSLGTCQCL  CLCVPVSHHLCIRVAHAASLCAMVCQC  LCVDGWPMSPDPRQGRPGWLDPAHLPSG  SLALWVRVTEAFGLKTGCSGSALRVA  GGLPSLLPFRLVKRTPGGQGA</p>
4817	12868	A	5697	272	1146	<p>GFLGLEPLSSSPQVAWATVPLWAQLQ  GGLAGSCLGQILAPGPSEARDWWASLA  GP*ERVEGADRPWRFHLSPEALVLAAG  R/SKARASDPGRSSTLSLLHVLAKVEKRR  VNLPRVLSMPPVAGTACHAYDREVHLR  CELSPGYYLAVPSTFLKDAPGEFLLRVFS  TGRVLSAIRAVAKNTTPGAALPAGEWG  TGPIPG/CSWKFGIQTAGGHKNFASYPTN  P/CVPLFGSPKGPGRVCVRITLHQHCRAIS  DTEFHPIGFHIFQVPEGGRSQDAPPLLLQ  DPLLSCVPHRVTPRR</p>
4818	12869	A	5698	281	535	
4819	12870	A	5699	1	1014	
4820	12871	A	57	1	1513	
4821	12872	A	570	961	1627	<p>LHPAVAVIQNVRSRGRFGHSPTLVVIPG  NPRHSRTITLIKLLHGIIIVIGRVKFRHPG  CGQAKFIFFTLRQNKPNVVSSTGRPKG  VMVGQTAIVNRLLWMQNHYPITGEDV  VAQKTPCSFDVSVWEFFWPFIAKLV  MAEPEAHRDPLAMQQFFAEYGVTTTHF  VPSMLAAFVASLTPQTARQSCATLKQVF  ADLCREWQQLTGAPLHNGLCVFLMR</p>
4822	12873	A	5700	155	2916	<p>QKKAAGVLPKFGYGVFPWQRAGQQFQ  TDKAKGLTFLGGKAVHLS*/HLEREQPPR  FAQPGTYASRWKALEEMEQQREQVDR  NIREAKEKLEAEMEARHEHQLMLMRQ  DPGLALVSCMQQGSMSRSPKKVFKHL  YELNLTKLQSLGSRSLRWKDSPFWGEE  AGGKRPLVSLALHRSPSLLLLFVPKHPS  KGRPDCTVQSPKPTKSQLDLRECI  HVGQAGVQIGNACWELCYLEHQIPDG  QMPSD</p>

4823	12874	A	5701	37	1542	PREPTPPA/PPRLQRTTRTRRCGFTIDIKSF LKPGEKTYTQRCRLFVGNLPTDITEEDF KRLFERYGEPSEVFNRDRGFGFIRLAESEQ NPWAEIAKAE LGRAPFLKSRPLRICFRL HMGAAFDCSRNLFSLLFFQLSCLEQAFS QFGSVEKAGVVVDDRGVPTGKIGFVEF ASKNLPATKRLWKRCDDGAFLLTTTPR PSPLWKPMEQFDDDEDGLAQRLLMHKTQ QYHKEREQPPRFCTWGHCLKFEYQSR WKA LDEMEKQQREQVDRNIREAKEKL EAEMEAARHEHQLMLMRQDLMRQEE LRRLEELRNQKLQKRKQIQLRHEEHRR REEDMIRHQKQEGLRQQEGFKPNYM ENREQEMRMGDMGPRGAINMGDAFSPA PAGNQGPPPMGMNMNRRATIPGPPMG PGPAHGTRRSRKYGNSQ*QIMEQCTND RFPQGPPSQMGSPMGSRTRF*NPLKHPM SGVGPVSGGPGGFRGSPAGGNFEGPNN RRRY
4824	12875	A	5702	81	334	HNVHC*VPCGEVGSVIHCWWNGDNLI* PS*KVSWKYESRAFKTSRPLDPTPLLLGI QSK*/YNKGHKDLDIRILITALFVVTKKL
4825	12876	A	5703	3	448	WGPEP*/PTRPTLDEGPGCGCGCSPSLP MGPPRGRGPPTSMSLLCRWPGVPLGSP GCPPRARVKLFPHPGPDVSTSPWAGHG AHQDP*GPVSGSESP/PPAGHWAPPASTS SPKIQAGL*PEGMRTAQPPSAVAGSPQG SFRHKEGWG
4826	12877	A	5704	1	206	GSL*SPSPRFKRFSCSLSSWDYKHVPP HLANFCIF*RDWVSPCWLGWSRTPDH LSWPPKVLGLPS
4827	12878	A	5705	32	401	AFDPKLPWNFRLCQVNRGISEWAGMS EMGMSDIQLSVGKLVAR/CWLQAE L*G* QFTKQER/CPSLTRSRWHGQPREGQAER PFLCAPPEGAPIGFLR*HHLRVQLAMAWI KFKMLGQSPLPYI
4828	12879	A	5706	252	415	PFCRPPRADSVTKQER/CPSLTWIRWHGQ PQGGQAERPFLRAPPEGASTGFLRQHH
4829	12880	A	5707	2	164	FFLYLFLFLRWSL/DSVIQAGVQWHDNI CSLQPLPPGFK*FSDCSTVLQGRQSETG LKYFFITV*EMESCSVIQAGVQWHDNLF PATASWVQVILRLLHCTPAWATE
4830	12881	A	5708	1334	1706	VRPHEGARAGPGGRGRGDPGLGARALP QPRVAVAGAACQPPSRLRHAGHRGPMV HAVGGSTFLGFRQ*LSHSSTRQCPSRD SVWGLQPHISLLHCPSRGSP*GPHPCHRL LPGHPGISIHL
4831	12882	A	5709	57	376	KRGSLSGCPRPRVQW/RKTALQLOPSKL PGLK*TFP/CLSLK*TGHTCAPLCPNFF VFLTYLIEMGLTMLPRLVSYFWPQVFP SLASQSTGITGVSHHALAWWSMQ
4832	12883	A	571	803	1403	FNRRILKINGLTREQTSGVQQQIRQALSA LPLPVNRLEEFDNCREAWRKQAWLKD IESARLQHNQAYTEAMLTEYADFFRQVE SSPLNPAQARAVVNGEHSLLVLAGAGSG KTSVLVARAGWLLARGEASPEQILLGL VAKPLKRWTSGFANGYIPKTLPHARFMR /*ALHIIQQGSKKVPIVSKLENTACRHEL FIA
4833	12884	A	5710	9	264	PCPPNTIN/CPLGLRLPC/PPHLCPSLCLGK VGGP*KVPQTPSLGETELEQKKPPVPMMA SGWTGGRNGGWEKSLRGKERRVFSQEG FP



4834	12885	A	5711	124	770	QYFPTATHGNVKSLLSGKASLKRHRV CCSCLFYIVQKQPKLNKTLFRQSYICDQT TFRKSKGIINIKFIFFFFEMESRSVAQAGM QWRNLGSLQ/PPPPGFMPPLSCLSLSSWD YKRPPPCPANFFVLVETGFTVLARMVSI S*PCDLPASTSQSAGITDVSHHAWHIKFK PEVTWRERGREEHVDRHIFRLDIRFTDT HFIKKELMRSDTL
4835	12886	A	5712	2	232	CLSLSS*YYGRMSRPANF*FLVETGFH HIGEAGLELLTLGDPPASASQGAGITGVS QRGQSLFAFLMSSTSFCK
4836	12887	A	5713	1	242	QAGVQWHDLGSLQPPPLGKQFSCSLP SSWDYRRVPPRLANFC/DFLVETEFHHV GQADLELRTSGNLPTSASQSAGITGVSH HA*PKVLGLQV
4837	12888	A	5714	1	133	ERLRYFRVEHLDQRLKAAENKFSYVCLM TWLKCWFCEKFKFLNRNAYIMIAIY GTNFTCSARNAFFLLMRNIIRVAVLDKV TDFLLGKLLIVGSVGLAFFFFTHIRI VQDTAPPLNYYWVPILTVIVGSYLIAHGF FSVYGMCDTLFLCFLEDLERNDGSAER PYFMSSTLKKLLNKTNKKAES*RLRYF RVEHLDQRLKAAENKFSYVPHDLAQMR LLVPGEVHQIP
4838	12889	B	5715	166	969	MGSACIKVTKYFLFLNLIFFILGAVILGF GVWILADKSSFISVLQTSSSSLRMGAYVF IGVGAVTMLMGFLGCIGAVNEVRCLLGL YFAFLLLILIAQVTAGALFYFNMGKLKQ EMGGIVTELIRDYNSREDSLQDAWDYV QAQVCCGWVSFYNWTDNAELMNRPE VTYPCSEVKGEEDNSLSVRKGFCEAPG NRTQSGNHPEDWPVYQEGCMEKVQAW LQENLGIILGVGVGAJIELLGMVLSICLC RHVHSEDYSKVPKY*
4839	12890	C	5716	300	347	MIHLPRPPKVLGLQA*
4840	12891	A	5717	316	797	APALPQPTGLAASSHMVQVPLWICLKLS HSKSRNSPQLFF*VFQFLRRSL/SSVPQAG VQ*HDLSSLQPP/PPGFTPFSCSLPSSWD YRCPPRPAPKFFLYF**RRGFTMLARMV SIS*PRDPPASASQSAGITGVSHRARPPP QFFIQLPLYNIHTLEGR
4841	12892	A	5718	2	519	WHPQSDVQAEVQWRDLGLLQSSPPAGF TLFSCSLSSWDYRRPPRP*FLYF**R RGFTVLARMVIS*LHDPALASQSAGIT GVSHRTRPGADL*PRVQKPRASLGG*NH MCNMKSLPTGQTRLNKGRRLGHPDHW RWKETPGL*CFHGNFCGALKAGRAHLD GQGR
4842	12893	A	5719	1	663	
4843	12894	A	572	3	1642	
4844	12895	A	5720	1	1561	MATSTGRWLLRLALFGFLWEASGGLD SGASRDDDLLPYPRARARLPRDCTRVR AGNREHESWPPPATPGAGGLAVRTFVS HFRDRAVAGHLTRAPELRTFSVLEPGG PGGCAARRRATVEETARAADCRAQNG GFFRMNSGECLGNVVSDERRVSSSGGLQ NAQFGIRRDGTLVTGYLSEEEVLDTENPF VQLLSGVVWLIRNGSIYINESQATECDET QETGSFSKFVNVISARTAIGHDRKGQLV LFHADGHTEQRGINLWEMAEFLKQDV VNAJNLDDGGGSATFVLNGTLASYPSDH CQDNMWRCPQVSTVVCVHEPRCQPPD CHGHGTCVDGHCQCTGHFWRGPGCDE LDCGPS*LAAQHGLCNGSTGLSAVDVAG WTGSNCSEECPLGWHGPGCQRPCKCEH HPCDPKGTGNCVSRVKQCLQPPEATLR AGELSFTRTAWLALTALAFLLISIAA NLSLLSRAERNRRLHGDYAYHPLQEM

						NGEPLAAEKEQPGGAHNPFKD
4845	12896	A	5721	1119	2008	ALHPPAQGELFCDYFKDPSWSEGPQSPP LTRLAPHPQTQCTELSGGRRGSAVLEEC VPTPASAHLAASPAEAGTAGVWR*RHH F/HSTGLLGPR*LSMSLLMS*CKAGRCPP GEDCPRPLPGCSLSPLERKLCFSSA*GPA SFLGGLTAKASGCSLSLRP/HSHIQGHGL WEKL*VPARRAGGGVCFKSAVPHLQSL** KPSSKASKREG*Q*TLPSATIGELPFK*HA PKHLCNAQGFLCKIH*HHK/QTANAIA* GGPGSLEGLRRPGSPSSLVGSGKTEV NSQNCRHLGREGVS
4846	12897	A	5722	3	444	FFFFLRLQSL/NSVI*AGVQ/QPLPPEFKRL SCLSLPSSWDYRCAPAHSAFNCIFSKD/M GFTMLTRLVSNWQQ/CELPTLASQSGIT GVSHHTQPIYHFIFVETEFHHVAQAGVK /PPSLK*SSRLSLPKQWNYSHEPLYALF NETFFFK
4847	12898	A	5723	1	6738	
4848	12899	B	5724	107	467	MRLHETLKQCQDLKTEKSQMDRKNQL SEENGDLSEFKLREFASHLQQLQDALNEL TEHHSKATQEWLEKQAQLEKELSAALQ DKKCLEEKNEILQGKLSQLEEHLSQLQD NPPQEKGEALX*
4849	12900	A	5725	149	577	GLLSTRPISCRHTL*GPLQSSWEYMDVP WDLRASEGNGKLLYSARDCTLQIHSVF QKLDVEEPDSANSSFYSTRSAPASQASLR ATSSTQSLARLGSPDYGNSALLSLPGYRP TNRSSARRSQAGVSSGAPPGE GTTGTYY
4850	12901	B	5726	24	219	MPRSSRTKSCRSSCGAWSSCMKENKELR AEAERLGHELQQAQGLKTKEAEQTCRHL TAQVRSLLGGTX*
4851	12902	A	5727	272	683	
4852	12903	A	5728	1	406	
4853	12904	A	5729	211	5508	IWCLFPLSVHMGILIYSQKCLEEKNEILQG KLSQLEEHLSQLQDNPPQEKGEVLGDVL QLETLKQEAATLAANNTQLQARVEMLE TERGQQAELLAERGHFEEKQQLSSLIT DLQSSISNLSQAKEELEQASQAHGARLT AQVASLTSELTTLNATIQQDQELAGLK QQAQEKQAQLAQTLQQEQASQRLRHQ VEQLSSSLKQKEQQLKEVAEKQEAQRD HAQQLATAAEEREASLRERDAALKQLE ALEK

4854	12905	A	573	114	5270	SARSASFRPGRPAARRPKCSHPLVPDGV PECKCVHPASTNFPRTSTAARHSHHN DGSTSTMGRWQI/VGYLVSQSGPLDT SALQAQLRETLPPHVMPEVLLQLPL NANGKLDKALPLPELKAQAPGRAPKA GSETIIAAAFSSLLGCDVQDADADFFALG GHSLLAMKLAAQLSRQVARQVTPGQV MVAHVAKLATIIDAEDSTRMGMFETIL PLREGNGPTLFCFHPASGFAWQFSVLSR YLDP
4855	12906	A	5730	111	407	NLLRTMIFWFGFEDRVWLCCPVLATSV LTATS/TFPGFKQFSCSLSSWDYRCIPP HPGNLWYF**RQGFTMLARLDSNSGPQA IHPPQPPKVLGLHV
4856	12907	A	5731	3	613	GLRALRRGQGLPGL*CCSRPQSPRAQG HPSMGGMQVRVTPPRGMASVGPQSYGG GMRPPNSLAGPGLPAMNMGPGVRGPW ASPSGNSIPYSSSSPGSYTGPPGGGGPPGT PIMPSPGDSTNSSENMYTIMNPIQGAGR ANFPLGPGPEGMAAAMSAMEPHHVNGS LGSGDMDGLPKSSPGAVAGLSNAPGTPR DDGEMAA
4857	12908	B	5732	134	471	MYAKGGKGSVPSDSQAREKLALVYVE YLLHIGAQKSAQTFLSEIRWEKNIMPSPG DSTNSSENMYTIMNPIQGAGRANFPLG PGPEGMAAAMSAMEPHHVNGSLGSGD MDG*
4858	12909	B	5733	223	692	MEPSRAQGHPSMGGMQVRVTPPRGMA SVGPQSYGGGMRPPNSLAGPGLPAMN MGPGVRGPWASPSGNSIPYSSSSPGSYTG PPGGGGPPGTIPIMPSPGDSTNSSENMYTI MNPIQGAGRANFPLGPGPEGMAAAMS AMEPHHVNGSLGSGDMDG*
4859	12910	B	5734	228	292	XLARDDHERVMGRQPRASLRA*
4860	12911	A	5735	1	1753	MYAKGGKGSVPSDSQARENLSAFQAA TELTSLDRLALVYVEYLLHIGAQKSAQT FLSEIRWEKNITLGEPPGFLHSWWYGL GCCGVFWDLYCAAPDRREACEHSGEAK AFQDYETPERPAHRHGNAGRAGSSSGMI DVGGSSDPQILRPTTPVCSLTNASSLSHG AGHLQRGGGTPQSAAAAPSPVMGSMAP GDTMAAGSMAAGFFQGPPGSQSPHNP NAPMMGPHGQPFMSRFPGGPRPTLRD GSQPPAGPPWVPSPPSGAMEPSRAQG HPEHGRPNARGVTPPRG/MGPAWGPRA YGGGMRPPNSLTRPRACLPMNMGPRK FVGPWAQPPVEYSIPYSSSSPGSYTGPP GGGGPPGTIPIMPSPGDSTNSSENMYTIM NPIQGADRANFPLGPGPEGMAAAYGA GMEPHHVNGSLGSGDMDGLPREFFQAP VAGLSNAPGTPRDDGEMAAAGTFHAPS SQSENYSPGMTMSRVNWAAAPGALCG PRLPRRCLRAKGLKVTPSGTLDLAN QGLPMLGGPTRKTLTILKTQGPREFFS VWTLPAICILVPERKALWGGPSSPGRQG GGAH
4861	12912	B	5736	315	458	NGPSRTQQPSLTDVLYCPEAIVSLVGLR RLAACQEHKRAPEVYVFT*
4862	12913	A	5737	202	402	
4863	12914	A	5738	1	3156	

4864	12915	A	5739	1	1470	MAPEENAGTKLLQSFERRFLAARTLRS FPWQVGGGASGEACGACGSPGADGMG LPAETPGAPATEGSHSALPTHSLACFNVP VNAPLRFSLPSTRSLEAKLRDSSDSELL RDILQKHEAVHTELLDELYEALAETLMA KESTQGHWSYLLPRYPSCDKVKTPRKA RSHSPSTAIHSGTTGLVTWDAARYLAE WAIKNLAAFTNRTVLELGSAGLTGLSI CKM/WPPPDHLDHCHSRVLEQLRGNVL LNGLSLEADITANLDSPRVTVAQLDWDV ATVHQLSAFQPDVVITADVLYCPEAIVSL VGVLRLAACWEHQWAVEVYMAFTVR NPETCQLFTTELAPSTCEGVLSLSLTDK NTRTHRGQETPELPQIAARPPGFSFTVH PSPPLPPDFAPAPPEHSPSWQPCAKMHPQ QPLPAHRDMDDPVPVHVGPVNYRANK QASTRRHTGFHDRVPHNLAQEAGQAWG SGLSSQHFRRLRQED
4865	12916	A	574	1	2967	
4866	12917	A	5740	2	413	
4867	12918	A	5741	3	231	
4868	12919	A	5742	83	1503	SWNTPYNHWATKQ/LSSHYSRGGAKEYE GEAVKQSLVESYTHPNSNETERSANIDT VMNWFTKEDFDFVTLCYREPDNVGHRF RPEAENRKLMIQQIDRTIRPWDDHREET QCQQDPLSNYIKFMDLVKFDIVGYGGFG MPLPKLGQEEALYQALKNAYPHLHIYK KEGFPEHFHLAKHDRVLPVIMYANFGYS INGISLLYFYTHLCDKYFNHFFHEPLSL WRAQTTPSLSHRYISLVRHMDATNLDS EAQLPGSPYPDSAPGPANLDSTQDLPQR RLSWPYPRPPNAHPGPALQAPRTLLL TLPPGPAPSLPPRTALGPPPLQSRPGFRPV SRQRCGPAHFMAPEENAGTELLQSFER RFLAARTLRSFPWQGGGGRAERPAGLA GVQGGTGWVSVLKPPALLPREFLGSPRS GPRDPVPVPGA WPKSLAPLLPRELAAED EGVSTALGGQTRARCGVQFTIIFTF
4869	12920	A	5743	266	477	DFSLSRPHGA*KQN*ETHQILSCC/GDILH KTVK/HSCVCEAPAVRQICPVLRLRTHQK ARGCPHRAFGRAV
4870	12921	A	5744	148	592	SHVALGQLGWLTRAVRSSWRWELCVSS TGSGLPAPFSLKQPKSCRCW*EEVKTGSC VGISHWQTST/VFPQAVFHLPPVLLPRSL ACLSCPRGCAQIR/CQ*TPPYPLFPILTYS FGMLSSTVLRHILETNKKEKSLAAEGV RHLQVS
4871	12922	A	5745	164	667	ERGTYICQITTSLYRAQQIQLNIQASPKV RLSLANEALLPTLICDIAGYYPLDVVVM WTREELGGSPSPSLWSSFSKPQAKALAG TYSISSSLTAEPG/RLQVPLYTCQVTHISL EEPLGASTPGCPTRAENSLGSHLCQQSLP SCTDVPWGFDRDQAPNRTWAASG
4872	12923	A	5746	1	790	VEELSKKLADSDQASKVQQQKLKVGGQL GEVWWPLDKGGKLFSLWGRGGLVYK WFLLIYKISYATGIVGYMAVMFTLFGNL LLFKIKPEDAMDFGISLLFYGLYGVLER DFAEMCADYMASTIGFYSESGMPTKHL DSVCAVCGQQIFVDVSEE/EDH*EHRCS/ CFHEFCIRGWCIVGKKQTCPYCKEKVDL KRMFSNPYPLLGSLGVCCKKVLASVT CIWVLLGPSLLPPTRTQTMNNKKIMKV MMRIKRMMDTDMAS

4873	12924	A	5747	1	1005	FRGRAVKMAAVVEVEVVGGAAGEREL DEVDMSDLSPEEQWRVEHARMHAKHR GHEAMHAEMVLILIALTLVVAQLLLQW KQRHPRSYNMVTLFQMWVPLYFTVKL HWWRFVLVIWILFSAVTAFTFRATRKPL VQTTPLRVYKWFLLIYKISYATGIVGYM AVMFTLFLGNLLFKIKPEDAMDFGISLLF YGLYYGVLERDFAEMCADYMASTIGFY SESGMPTKHLSDSVCVCGQQIFVDVSE EGDHETTYRLSCNHVSHEFCIRGWCIVG KKQTCPCYCKEVDLKRMFSPNWERPHV MYGQLLDWLRYLVAWQPVIIGVVQGIN YILGLE
4874	12925	B	5748	99	236	XTTSTSSTVTVTAPGPAATGSPVKKHRP LLPKETAPAVQRRVVWNSX*
4875	12926	A	5749	1	783	
4876	12927	A	575	1882	3402	LDASFWIPPKATQGMTWIFTFPPSSPSYNS S/CYAGWLKGSAPLQLSQPHHTAYIIFTS GSTGRPKGVMVGQTAIVNRLLWMQNH YPLTGEDVVAQKTPCSFDVSQFFAEYGV TTTHFVPSMLAAAFVASLTPQTARQSCAT LKQVFCSGEALPADLCRVWQLTGAPL HNLYGPTAAVDVSWYPAFGEELAQVR GSSVPIGYPGYLGRPDLTASRFIADPFA PGERMYRTGDVARWLDNGAVEYLGRS DDQLKIRGQRIELGEIDRVMQALPDVEQ AVTHACVINQAAATGGDARQLVGYLVS QSGPLDTSALQAQLRETLPPHMVPVVL LQLPQLPLSAKAGCPAAQVPRVAQVRV CAVLEDLGDIRESEGERKQEADAVLGTQ DTPRVTSQPNGLLLKIEPQENVKIEGQHQ GLVWLCVAASPVLRVTREKEEKKKEE GNNMRFTSLVLSVLVNIVRALEKKVLDI MFNNCRTGVQAITLSHRRALAIAlAR YIKSALYDG
4877	12928	A	5750	1	1626	
4878	12929	A	5751	1	542	CGWNTGYCD/YPCQQAHWPEHIKSTQS ATALQGGADVEVNTEPLNKSSQSSSST QSAPSETASASKEKETSAEKSKESGSTL DLSGSRETPSSILLGSNQGSSVSKRCDKAT LLCPNHHRPPAAPQLPRPEVPFPEL*NSR LSPPVFKKKGIRRVPIPTSTSTKSLLPKE SRLDTFWD
4879	12930	A	5752	1779	3628	MEISEDVYTAVGHSDESSEKSDSSDSEF ISDDEQKSKDEPEDTEDKEGCQMDKEPS AVKKKPKPTNPVEIKEELKSTSPASEKAD PGAVKDKASPEPEKDFSGKAKPSPHPIK DKLKGKDETDSTVHLGLDSDSENELVI DLGEDHSGREGGRKNKKEPKESPKQDV VGKTPPSTTVGSHSPETPVLTRSSAQT AAGATATTSTSSTVTVTAPAPATGSPV KKQRKLIPKE/TAPAVQRRVRELK*SF KRPPKSGTCRRCSVSSSSSSKTSSSHQS SQGTRYQTRQAVKAVQKQKITQSPSTSTI TLVTSTQSSPLVTSSGSMSTLVSSVNADL PIATASADVAADIAKYTSKLMDAIGT MTEIYNDLSKNTTGSTIAEIRRLRJEIEKL QWLHQELSEMKNLELTMAEMRQSW EQERDRLIAEVKKQLELEKQQAQVDETKK KQWCANCKKEAIFYCCWNTSYCDYPCQ QAHWPEHMKSTQSATAPQQAADAENV TETLNKSSQSSSSTQSAPSETASASKEK ETSAEKSKESGSTLDLGSRETPSSILLGS NQGSDHSRKNKSSWSSSDEKRGSTRSDH NTSTSTKSLLPKESRLDTFWD

4880	12931	A	5753	2	1711	RSEDEKSDSSDSEYISDDEQKSKNEPED TEDKEGCMQMDKEPSAVKKKPKPTNPVEI KEELKSTSPASEKADPGAVKDKASPEPE KDFSEKAKPSHPKDKLKGKDETDSP VHLGLDSDSESELVIDLGEDHSGREGRK NKKEPKPSPKQDVVGKTPPSTTVGSHS PPETPVLTRSSAQTSAGATATTSTSTV TVTAPAPAATGSPVKKQRPLLPKETAPA VQR\SCGTSSTVQQKEITQSPSTSTITLVT STQSSPLVTSSGSMSTLVSSVNADLPIAT ASADVAADIAKYTSKMMDAIKGTMTEI YNDLSKNMTTWKAQLAEDSQGLRIEIEKL QWLHQQLA\SEMKNLELTMAEMROSL EQERDRLIAEVKKQLELEKQQA\VDETKK KQWCANFKKEAIFYCCWNTSYCDYPCQ QAHWPEHMKSTQSAYCSSSRKADAE\ VNTETLKLSPSQGSSSTQSAPFRKRPAP SKEK\ETFSLRKAKESGSTLDLSSGSRTPS SILLGSNQSDHSR\SNKSSWSSSDEKRG S\TRSDHN/TPSTQHGRSLLPGKESRAGTP FLGTSK
4881	12932	A	5754	1	191	MQK*ITAWAPAPMKIKIIASPERKYSVWI GGSIWPQLST/FQQMWISKQEYDESGPSI VHRKCF
4882	12933	A	5755	2	1203	LSRRCLSHSVLPPLRRRVSLPVAMEEEI AALVIDNGSGMCKAGFAGDDAPRAVFP SIVGRPRHQGMVGMGQKDSYVGDEA QSKRGILTLKYPIEHGIVTNWDDMEKIW HHTFYNELRVAPEEHPVLLTEAPLNPKA NREKMTQIMFETFTNPAMYVAIQAVLSL YASGRTTGIVMDSGDGVTHTVPIYEGYA LPHAILRLDLAGRDLTDYLMKILTERGY SFTTTAEREIVRDIKEKLCYVALDFEQEM ATAASSSSLEKSYELPDGQVITIGNERFR CPEALFQPSFLGMESCGIHETTFNSIMKC DVDIRKDLYANTVLSGGTTMYPGIADR MQKEITALAPSTMKIKIIAPPERKYSVWI GGSILASLSTFQQMWISKQEYDESGPSIV HRKCF
4883	12934	A	5756	3	412	SRFPEGLFQPPFFPGWMKSCGIIHETTFHSH/ IKFDVAIRKDLYANTLLPGGNHQVSGAL LTGMQKEIHAPAAQATLRFKIIAPPGSAS TRW/VGVSIGLASLSTFQQMWISKQE\ YDESGPLHSSTAKCFLNGLSQIA
4884	12935	A	5757	1	2297	MGRDWSNLESLEEDRKMRESLEHARDL LNCCDQNAHHMDSEVQAEVSEGDDEE LIGKWSKAYCHRCEQKDDLKWELIFKRE AEHKSLEILQPDHVVEKKNPGGGRNQST SSSWVGTVAEITIEAVKCKIQVLQQA DDAEERAVERSQREFREERRARE\QAEAE VASLNRRIQ\LVEEELDRAQERLATALQK LEEAEK/SLADESERRY*RLFENRALKRL KEKIGTSREIQLK\EAKHIAEEADARKYEE VARK\LVIEGDLERTEVERAELAESRCR EMDEQIRLMDQNLKCLSAAEEKYSQKE DKYEEEIKILTDKLKEAETRAEFAERSVA KLEKTIDDLEDNSTSGDPVEKKDETFPG VSVAVGLAVFACFLSTLLLVLNKCGRR NKFGINRPAVLAPEDGLAMSLHFMTLGG SSLSPTEGKSGLQGHIIENPQYFSDACV HHIKRRDIVLKWELGEGAFGKVFLAECH NLLPEQDKMLVAVKALKEASESARQDF QREAELLTMLQHQHIVRFFGVCTEGRPL LMVFEYMRHGDNLNRFLRSHGPDAKLLA GGEDVAPGPLGLQQLLAVASQVAAGMV YLAGLHFVHRDLATRNCLVGGQLVVKI GDFGMSRDIYSTDYRVGGRTMLPIRW MPPESILYRKFTTESDVWSFGVVLWEIFT YGKQPWYQLSNTAIDCITQGRELERPR

						ACPPEVYAIMRGCWQREPSNATASRMC TPGCKPWPRHLLSTWMSWARGPAQGLG VVSRTNGACQHP
4885	12936	A	5758	3	636	WAWNQAEEVASVNGRIQLVEEELDCA QERLATALQKLEEAGKAADESERGMKV IENRALKDEEKMEQLQKEAKHIAEEA DRKYEEVARKLVIIIEGDLERTEVERAELA ESRCREMDEQIRLMDQNLKCLSAAEEK YSQKEDKYEKEIKNLTKLREAETRAEF AERSVAKLEKTIDDLEDKLKCTKEEHL TQRMLDQTLDDL NEM
4886	12937	A	5759	1	239	QCCSGGTHGNPAIGDRMQKQILPWAPA QMKIRFMAPPERKYSVWIAAPILASLSTS SRMWISKQEYDESGPSIVHRKCF
4887	12938	A	576	22	413	
4888	12939	A	5760	3	1458	ADPPPVHTRRQLTMDDIAALVVDNGS GMCKAGFAGDDAPRAVFPISVGRPRHQ GVMVGMGQKDSYVGDEAQSQRGILTK YPIEHGIVTNWDDMEKIWHHTFYNELRV APEEHPVLLTEAPLNPKANREKMTQIMF ETFNTPAMYVAIQAVLSLYASGRITGIV MDSGDGVTHTVPIYEGYALPHAILRLDL AGRDLDYLMKILTERGYSFTTTAEREIV RDIK/EEAVLRRPGLRARDGHGVASSSLE KSYELPDGQVITIGNERFRCPEALFQPSFL GMESCGIHETTFNSIMKCDVDIRKDLA NTVLSGGTHQFPLPCRPGC*KKITALEP ATMKIRIIAPPEAQSTPLWNRGAPILAS LVHLPKMWQDQKSREYDESGPLPFVHR KICFF
4889	12940	A	5761	171	324	
4890	12941	A	5762	3	383	
4891	12942	A	5763	2	314	FFFFISALKALFAFLQILLFQVNVLRITAH IVISFINLLSVTPSKAFLLLAFIFCREDYSF TAYATISYLKIGPKANLLNNEAYVITMQ VTKSTQNSFRVNGY
4892	12943	A	5764	1	176	MRTFALLTAMLLLV/HAQAEPLQARAD EAAAQEQPGADDQEMAHFTWHESAA LPLSA

4893	12944	A	5765	1	2674	GKHKLLSTGPTWPWSIREKLCLASSVMR SGDQNWVSVSRAIKPFAEPGRPPDWFSQ KHCASQYSELLETTETPKRKRGEKGEVV ETVEDVIVRKLTAERVEELKKVIKETQER YRRLKRDAELIQAGHMDSRLDELCNDIA KKKLEEEEAHVKKRATDAAYQARQAVK TPPRRLPTVMVRSPIDSASPGGDYPLGDL TPTIMEEATSGVTPGTLPTVTSFPGIPD TLPPGSAPLEAPMTPTVDDSPQKKMLGQ KATPPPSPLLSELLKKGSLLPTSPRLVNES EMAVASGHLNSTGVLLVGGVLPIMHG GEIQQTPNTVAASPAASESVSQATIVMM PALPAPSSAPAVSTTESVAPVSQPDNCVP MEAVGDPHTVTVMDSSEISMIINSIKEE CFRSGVAEAPVGSKAPSIDGKEELDIAE KMDIAVSYTGEELDFETVGDIAHEDKV DDHPEVLDVAAVEAALSFCENDDPQSL PGPWEHPIQQUERDKPVPLPAPEMTVKQE RLDFEETENKGIHELVDIREPSAEIKVEPA EPEPVISGAIEIVAGVVPATSMPEPRLSQ DLDEELGSTAAGEILEADVAIGKGDETP TNVKTEASPESMLSPSHGSPNPIEDPLEAE TQHKFEMSDSLKEESGTIFGSQIKDAPGE DEEEDGVSEAASLEEPKEEDQGEGLSE MDNEPPVSESDDGFSIHNLQSHLAD SIPSSPASSQFVCSQDQEAIAQKIWK AIMLVWRRAANHRYANVFLQPVTDIA PGYHSIVQRPMDLSTIKKNIENGLIRSTA EFQRDIMLMFQNAVVMYNSDHDVYHM AVEMQRDVLEQIQFLATQLIMQTSSEGI SAKSLRGRDSTRKQDASEKDGGRGR CAIEADMKMKK
4894	12945	A	5766	1	419	YANVFLQPVQDDIAPGSPSIGQRVPMDL ST/KKNI*NG*SEAPADFQR*HMLMFQ LLMYHSSDHYFYHIAVEMQRDVLEQIQ QFLATQLIMQTSSEGISAKSLRGRDSTR QQDASEMDGGTRGRVCAIEADMKMK K
4895	12946	A	5767	2	111	ISAKSARGRDSTRKQDASEKDSVPMGSP AFLSLF
4896	12947	A	5768	3	2884	GKHKLLSTGPTWPWSIREKLCLASSVMR SGDQNWVSVSRAIKPFAEPGRPPDWFSQ KHCASQYSELLETTETPKRKRGEKGEVV ETVEDVIVRKLTAERVEELKKVIKETQER YRRLKRDAELIQAGHMDSRLDELCNDIA TKKKLEEEEAHVKKRATDAAYQARQAV KTPPRRLPTVMVRSPIDSASPGGDYPLGD LPTIMEEATSGVTPGTLPTVTSFPGIP DTLPPGSAPLEAPMTPTVDDSPQKKMLG
4897	12948	A	5769	3	627	PRGENRFKAQPEWRKTPCQMMLSQSTF RKTYIGKIFTILALPYVGKELNMIML PDETTDLSTVEKSDTHAKFVWTSLDM MAEEVVKLSIPRFKLEESYDMESVLRNL GMTDAFEAGARANFSGMSQTDLSLVQR SCTKSICGRSNEGRPREAASPPKVAIMM MRCAVFCPPPPAPDHPFLFIQHRKTN GULFCGRFSSP
4898	12949	A	577	1	2148	
4899	12950	A	5770	3	626	YNLVTR/LAVLSFEKDDDHNGHIDFITA ASNLRAKMYSEPADRFKTKRIAVKILV KPTTTGTVSGLVCFEMIKVTGGYPFAAY KNCFLNLSHS/IFVVFTETTEVRKTKIRNG ISFTIWDRTVHGKEDFTLLDFINAVKE KYGIEPTMVVQGVKMLYVPVMPGHAK RLKLTMHKLVKPTTEKKYVDLTVSFAPD IDGDEDLPGTSK
4900	12951	A	5771	92	265	SFELFADKVPKTA/WLDGKHVVFGKVKE GMNIVEAMERFGSRNGKTSKKITADCG QLE



4901	12952	A	5772	1	1310	GNSPPSELKWKAKSEDLRHRGLKAQAEI KGSTQQIGFTTDPMARSSPYPTDVARV VNAPIFHVNSDDPEAVMYVCKVAAEWR STFHKDVVVDLVCYRRNGHNEMDEPMF TQPLMYKQIRKQKPVQLQKYAELLVSQG VVNQPEYECVSMHGVNRKPSYNSTKSS MDGLILHPATGLVFVLSKQCEEIHQPVV WTCEQREAEENATAEENRVLLAMVNPTV FFDIAVDGEPLGRVSFEVGRAAACGNGA OKVGRGRENFPCL*ATGEKIGFWL*GVP CFHRLFPRVLCVQGGELQQRH*WPLVG KPHSMGKKI*KIEELPSLKHTGSPGILSP WQNAGPQTNGFFSFSICTAKTNEWLEW PSHVVFVHK*KEGWMNIVEAHWSRFGS RNGKTQQRSPFADCGQLLISLTCVFILT TKIISFCRLRRAPLQPHLLAVS
4902	12953	B	5773	47	204	XQHTFCKRCGVQSFYTPRSNPGGFGIAP HCLDEGTVRSMVTEEFNGSDWEKA*
4903	12954	A	5774	2	402	CGDRGALRPPSCAGRSGPPRPPRPPRP LPWHPAPPAHGAPLARPGARARRSEKPP SEKPLRRSSPRAQEEGPGEPPPELALLP PPPPPPPTAPRRRPPRPPGPGRAAGALG DVPEAAEAYLERVPPSSC
4904	12955	A	5775	2	241	FSCLSLKSWDYRALPPSPANLFLVETG FHHVQGASLKLTSQDPPASASQTVGIT GMSHHAWPVSSFYIWSHWAPRNS
4905	12956	A	5776	22	643	VVEFPVLTMAATSGILSALGNFLAQMIE KKRKKENSRLDVGGLRYAVYGFFFTG PLSHFFYFFMEHWIPPEVPLARVRRLLL DRLVFFAPAFLLMLFLIMNFLEGKASVT FAAKMRGGFWPAAEDETCTRVWTPLOF ININYPVFESSGCFGQPGQLLFWYAYL ALLGEVTRWENIRCTCGRGSGGLHPPK REQKPIQSGCH
4906	12957	A	5777	23	448	ELESRSVTQAGVQWCDLGSILQPPPL/SF KQFSLSLLSSWDYRHPVPPCANVCILVE MGLVGQAGLELLISSDTPISVSQSAGIUSV SHGTQPHIGNFLEQLKVVQLCYTSFLCFT KSSTVKHIQLIHKITLRNTKNKARI
4907	12958	A	5778	25	396	ISGRSTFSLFSRQGLSALSPRECSVAISA HCNLRPLGSSNAGTTGA*HHTRLILYF/LA EMGFHHVGQAGFEVLTSSNPPASASTSA RITGMSNRTGHLNFHP*MCYKYRCGS LAGRGGSRW
4908	12959	A	5779	80	460	YISLNVTTHLIFFFFLRQGLCSVTQAGV QWCNLGSLQPLPPRFKNWDYRCVTPH LANFVFLVEMGF/LPASASQSAGITGVSH CTQLGVFICICYGSSHGVRQSWHQFCSS KLLVKSGRVGVGLLG
4909	12960	A	578	222	666	SLCFCFLEVSLPACQETYGKSPFWLSIPF EDIARNLMKRTVCASIFELWGHGQSPE ELYSSLKNYPVEKMVPFLHSDSTYKIKIH TFNKTLTQEEKIKRIDALEFLPFEGKVNL KKPQHVFVLEDYGLDPNCIPENPHNIYF GRW
4910	12961	A	579	1664	1844	WQKLLFLFGTESCSVARVGVQWRHLSS PKPPPPGSSNS/PASASRVAVTGAHLHAR LIFVFL
4911	12962	A	5792	16	301	IFASTAPKRSWARLGPPQILVSVATKASF GAPTIPSRPGPQSVFANSDLFPAPPQIPSR PVRIPPPIPVPVRRPPAAPSRPTIIRPAEP SLLD
4912	12963	C	5793	78	209	MSVFXXXXXXXXXXXXXXXXXXXXXNEET NHPLGVVYRLSDSTQYI*
4913	12964	A	5794	119	231	

4914	12965	A	5795	69	909	EWCLLSPPEGHTFHLLIWGITELKTKRRGR KPSRPPMCYGKCARCIGHSLVGLAILCI AANILLVYFPKGETKNASVNLHLSRVVWF FSGIVGRL/VLLMLPAQHFLVHWGLEQD DC/CG/CCGHENCGKRCAMLSVIGWLS IGIAGSGLLWSIV/VQPLGLARKDPLCLD S/LSGQWKLOPLPSTEGPVTFWITSTWSE CTEPKHIVKWNVSLFSILLALGGPELILC LIQVINGS/VLGGICG/FCCSHQQYGLAK RTNPGTEPOSFLYFHCNLSYLHLYSIC
4915	12966	A	5796	1	200	RGPVLLDTS/TWARCNEPKPI/VEWNDTL FSN/LLASGGIEFILCLIQVINGVLGGICGF CCSHQQQYDC
4916	12967	A	5797	2	424	RLSLTLVAQAAVQWHNLGSLQPPPPGFK RFSCSLPSSQDHRHTPPCPAN/SFVFLVE TRLHHAGQAGLKLPTSG/DTSSASQSAR ITGVSHRARCWDSNSTIFLGLANSNWR NVFLIVGGERIKGKHTHFNTSMSEFEE
4917	12968	A	5798	46	626	
4918	12969	A	5799	1	1004	MWLILAGLAWAGLWVSDGLKDVLVMA KGKSRRGKSAPKHIMSLGPLLMIAFAICH FASVMGFHYLEVNLRLQQCFKYQLIETA FAVLVQSVLRIYSSRIWDKTSLECLKVLT GHTGSVLCLQYDERVIVTGSSDSTVRVW DVNTGEVLNTHLHNEAVLHLRFSNGLM VTCCKDRSIAVWDMASATDITLRRVLVG HRAAVNVVDFDDKYIVSASGDRITKNR DKAEVAYTNLVWSTSTCEFVRTLNCHK RGIACQYRDRLVVS GSSDNTIRLWDIEC GACLRVLEGHEELVRCIRFDNKRIVSGA Y/DMGFSSLELLATWLPNA*GSSFTAEL
4919	12970	A	58	1107	1365	HSGSAGMHWNLFLVHMCQAHILFDRL LHMM*CNGRGP*FALCTRCSQ*DSGAN WDK*KNILPLRNFGWLGFNRDLGSRGW VPEV
4920	12971	A	580	3	439	
4921	12972	A	5800	1	3084	
4922	12973	A	5801	3	265	
4923	12974	A	5802	242	401	DLYAATYSHSHT/ILVWSTSTCEFVRTLN GHKRGIAQLQYRDRLVVS GSSDNTI
4924	12975	A	5803	2	385	FVFAAARGERGGFAGAVMEPDSVIEDKT IELMLPKCMFGILLKKA GYSKRKESWK MLDCCLFSD*SERENPHSFVIGGSEVQNI FQNTSVMEDQNEDESPKKNLWQISNGT SSVIVSRKRPSEGNH
4925	12976	A	5804	1	1248	
4926	12977	A	5805	2	1653	RGGAAGAAMEPDSVIEDKTIELMCSVPR SLWLGCANLVESMCALSCLQSMPSVRC LQISNGTSSVIVSRKRPSEGNH YQKEKDL IKYFDQWSESDQVEFVEHLISRMCHYQH GHINSYLPMLQORDFITALPEQGLDHIAE NLSYLDARSLCAAELVCKEWRVISEG MLWKKLIERMVRTDPLWKLSERRGW DQYLFKNRPTDGPPNSFYRSLYPKIIDIE TIESNWRGCRHNLQRIQCRSENSKGVYC LQYDDEKIIISGLRDNISIKIWDKTSLECLK VLTGHTGSVLCLQYDERVIVTGSSDSTV RVWDVNTGEVLNTHLHNEAVLHLRFS NGLMVTCKDRSIAVWDMASATDITLR RVLVGHRAAVNVVDFDDKYIVSASGDR TIKVVSTSTCEFVRTLNCHKRGIAQLQY RDRLVVS GSSDNTIRLWDIECGACLRVL EGHEELVRCIRFDNKRIVSGAYDGKIKV WDLQAALDPRAPASTLCLRTLVEHSGR VFRLQFDEFQIISSSHDDTILWDFLNVPP SAQNETHSPSGVITYYISR

4927	12978	A	5806	1	180	NFKRFHKTIAIETASYWPK/DRHINQRN/ RESPVINPTTYGQLIVDKGAKNTQWGKD NYFN
4928	12979	A	5807	1	355	
4929	12980	A	5808	81	474	LGERRRASLSLSLTPGRRRGFKVATQER NPQRAQMRLARRQKKGVVPFWGDFLTE LQ/MGLDSAIPGRPWMATPNKRSKEVRV LQEMQLLQVAAMNYRLRPLEKFVITYFT RMEQLSDKESYKLSQCLEPENQ
4930	12981	A	5809	3	383	
4931	12982	A	581	1	691	MDQDSASTKTCPGTHRKS GPRSREQHG ALGAANAHD TVRDGER YDRWSGPRRRE QHGA LGAANAPD TVRDGERRSLRRDWR DCAEATADVSGVRSLSRLLSARRLALAL AKAWPTVLQTGTRGVHFTVDGNKRASA KVS DSISAQYPVVDHEFDV VVGAGGA GLRAAFGLSEAEFD TACVTKLFPTRSH VAAQLENYGMPFSRTEDGKIYQRAFGG QSLKFGKGRQA
4932	12983	A	5810	1	148	
4933	12984	A	5811	3	1219	PGAMATLSFVLLLGAVSWPPASASGQE FWPGQSAADILSGAASRRRYLLYDVNPP EGFNLRRDVYIRIASLLKTLKTEEWVLV LPPWGRLYHWQSPDIHQVRIPWSEFFDL PSLNKNIPVIEYEQFIAESGGPFIDQVYVL QSYAEGWKEGTWEEKVDERPCIDQLLY SQDKHEY YRGWFWGYEETRGLNVSCLS VQGSASIVAPLLRNTSARSVMLDRAEN LLHDHYGGKEYWDTRRSMVFARHLREV GDEFRRHLNSTDDADRIPFQEDWMKM KVKLGSALGGPYLGVHLRRKDFIWGHR QDVPSLEGAVRKIRSLMKTHRLDKVFVA TDAVRKEYEELKKLLPEMVRFEPTWEEL ELYKDGGVAIIDQWICAHASS*SAAGEPE TSCAGAGGTGRPLT
4934	12985	A	5812	75	130	IHRE*VPAAQGELRGAAE
4935	12986	A	5813	1	1940	MATLSFVLLLGAVSWPPASASGQEFWP GQSAADILSGAASRRRYLLYDVNPPEGF NLRRDVYIRIASLLKTLKTEEWVLVLP WGRLYHWQSPDIHQVRIPWSEFFDLPSL NKNIPVIEYEQFIAGAQLSHAAVSFPKC FSEMDLKWMSFVPPQLEPPLHPKKAATP GCYSDRTRLPVRKAVLRSGRRTACGVCF VVSQCSARDKELHLRDAPS RFVPAPEFH LRGAPSRFVPAPELHLRGAPSRFIPA AFE QILIADLLGVTVP PWSWCGSGQSGGPFIDQ VYVLQSYAEGWKEGTWEEKVDERPCID QLLYSQDKHEY YRCLLRLPLPQGWRS QSQVSIKGS DTRPPVEKLSVNSLHVS SARAAGSKAWQGSASIVAPLLRNTSAR FERWDYSLQRVFSVGVDFRIDGVTFHSH PWFCDRPADVFTRAAACKAGTCLQETQ SLLTWDFVQTRRSMVFARHLREVGDEF RSRHLNSTDDADRIPFQEDWMKMKVKL GSALAGGPYLG VHLRRKDFIWGHRQDVP SLEGAVRKIRSLMKTHRLDKVFVATDA VRKEYEELKKLLPEMVRFEPTWEELELY KDG GVAIIDQWICAHARFFIGTSVSTFSF SDS*GKEKFLGLDPKTDVQQVLRPRREG V

4936	12987	A	5814	3	1286	PGAMATLSFVFLLLGAVSWPPASASGQE FWPGQSAADILSGAASRRRYLLYDVPNP EGFNLRRDVIYIRIASLLKTLKTEEWVLV LPPWGRLYHWQSPDIHQVRIPWSEFFDL PSLNKNIPVIEYEQFIAESGGPFIDQVYVL QSYAEGWKEGTWEEKVDERPCIDQLLY SQDKHEYRGWFWGYEETRGLNVSCLS VQGSASIVAPLLRNTSARSVMLDRAEN LLHDHYGGKEYWDTRRSMVFARHLREV GDEFRRHLNSTDDADRIFFQEDWMKM KVKLGSA LGGPYLG VHLRRKDFIWGHR QDVPSLEGAVRKIRSLMKTHRLDKVFVA TDAVRKEYELKKLLPEMVRFEPTWEEL ELYKDGGVAHIDQWICAHARCLPTSLSAE SGSGGFQRFPCPKYSVSEQMVACVHSGH FHTVCLLV
4937	12988	C	5815	164	391	
4938	12989	C	5816	321	341	MAALAS*
4939	12990	A	5817	128	526	FFFFIKTASHSVVQAGVQWRSLSSMQP PPPGKQFSLSLGWSWIKGHLPHPSNFC IFSRDGVSPCWLGWSQTPGLRPQSPKC LGLTGCEATSPWPASLKFKNVPHLP YVYLLHVLGPRSCYLOKW
4940	12991	A	5818	3	273	RRPRQRPTDQTQWFSILPDFSLDLQEGPS VESQTHSDPHIPPVDPTTHLTFNHLISVC VSLTSLPHLGSPCLWSPALVSQEAASH QDRR
4941	12992	A	5819	1	861	MLDSSLALGGLVLLRDSVEWEGRSLLK ALVKKSA LCGEQVHILGCEVSEEEFREG FDSINNRLVYHDFRDPLNWSKTEEAF PGGPLGALRAMCKRTDPVPVIALDSLS WLLRLPCTTLCQVLHAVSHQDSCPGDS SSVGKVSVLGGLHEELHGPGPVGALSSL AQTEVTLGGTMGQASAHILCRRPRQRP NYQTQWFSNLPDFQPGSPRGALCRVPA LIPHIPPKEREARDSLILPFQFSSEKQQA LLRPRPGQATSHIFYEPDAYDDLQEDP DDDLI
4942	12993	A	582	306	458	IYIFLLNCIFLIHIIYFETESCSVAQAGWV QWHDLGSLQALPPGFTPF
4943	12994	A	5820	2	494	LGLLHEELHGPGPVGALISLAQTEVTLG GTMGQASAHILCRRPRQRPTDQTRVSI LPDFSLDLQEGPSVESQPYSDPHIPPVSK NAKARTRKCSLVSGHGRENKSCRGWG WGQGF*GWGRVAASFVPQVDPTTHLTF NLHLSKKEREARDSLILPFQFSSEK
4944	12995	A	5821	1	498	VRKVSVLGGLHEELHGPGPVGALSSLAQ TEATLGGYH/VGQASAHMLCRRPRQRP TDQTQWFSILPDFSLDLKEGPSVESQPY DPHIPRVDPTTHLTFNLHLASKKEREARD SLILPFQFSSEKQQA LLRPRPGQATSHIF YEPDAYDDLQEDPDDDLNLPQOI
4945	12996	A	5822	3	322	HERQMALLKANKDLIPDGMTLTPLLQP LGFEDPVVCEQDVVTAGQDVWVYYDR DYGQQTGEQERDKALQELRQELNTL ANPFLAKYRDFLKSHELPSHPPSS
4946	12997	A	5823	3	276	
4947	12998	A	5824	151	204	SGEPFISGRFWWLQDG/DLMTLPRLVS NSWLKQSSHLGLLKHWDYMSEAPHLAK NFLKAYEVVSLSFHVEGSGGCRMA
4948	12999	A	5825	175	456	IHFVLISAHAVGCEGILWGGWSLRGVGV PHSSAKRS*VGIRGPGKGRPGAQLPAGR ARASTEVPISGAPCPLLGAKNDRGLHAP KRTGTGPSNH

4949	13000	A	5826	188	269	IHFVLISAHAVGCEGISPIEEMGVVSALSIQ EACSPGLQWATSFLASAWVSAPLLQMA HICPIILLGSLKGARATNRFQSLFVQGV SFPARFPHLDLLLQ*P*KNDWTDVSHLE QRGTNPG*RQE*SGPLQPWRAGFLDGQC
4950	13001	A	5827	1	542	
4951	13002	A	5828	2	889	RGLRIPTWALQELAGRVTRRGPEGEGR REPGGSASPMRAAFPAGGAGGSVEPPSA RPAPQPAGTAARSEEAPARAQAAGMAG PGWGPRLDGFILTERLGSPTYATVYKA YAKKDTREVVAIKCVAKKSLNKASVEN LLTEIEILK GIRHPHIVQLKDFQWDSNII LIMEFCAGGDLRSFIHTRRILPEKVARVF MQQLASALQFLHERNISHLDLKPQNILL SSLEKPHLKLADFGFAQHMSPWD\EKH VLRG\SPLYMAPEMVCQRQ\YDARVDL WSMGVILYGETSFPCFSP
4952	13003	A	5829	297	331	
4953	13004	A	583	47	358	SLLTPLVSPVPACPCPSKSEVSVPOEHPLP CRPLFRVWRNRQSRGCPQGEHYGAGA WGLLPVWKSCPPAKTCCKWGLP/CPPC GRSCLHSG\GAALCLLCGSA
4954	13005	A	5830	3	405	
4955	13006	A	5831	3	408	
4956	13007	A	5832	1	530	
4957	13008	A	5833	198	1175	RANPFRMGNHAGKRELNAEKASTNSET NRGESEKKRNLGELSRTTSEDNEVFGEA DANQNGTSSQDTAVTDSKRTADPKNA WQDAHPADPGSRPHILIRLFSRDAPGRED NTFKDRPSEDELQTIQEDSAATSESLDV MASQKRPSQRHGSKYLATASTMDHARH GFLPRHRDTGILDSIGRFFGGDRGAPKRG SGKVPWLKPGRSPLPSHARSQGLCNMY KDSHHPARTAHYGSPLQKSHGRTQDEN PVVHFFKNIVTPRTPPSQGKAEGQRPG FGYGGRASDYKSAHKGFKGVDAQGTLS KIFKLGGDRSRSGSPMARR
4958	13009	A	5834	1	651	MGNHAGKRELNAEKASTNSETNRGESE KKRNLGELSRTTSEDNEVFGEADANQN NGTSSQDTAVTDSKRTADPKNAWQDAH PADPGSRPHILIRLFSRDAPGREDNTFKDR PSEDELQTIQEDSAATSESLDVMSQKR PSQRHGSKYLATASTMDHARHGFLPRH RDTGILDSIGRFFGGDRGAPKRGSGKRLT PPGKNCSLRVPAPEVTRPDPR
4959	13010	A	5835	3	208	
4960	13011	A	5836	71	394	APSARDVSRCAHRARPGAIMLLPSAAD GRGTAITHALTS\LEDKKELSEESEDEEL QLEEFPMKTLDPKDWKNQDHYAVLGL GHVRYKATQRQIKAARKYLVLK

4961	13012	A	5837	146	1910	APSARDVSRCAHRARPGAIMLLPSAAD GRGTAITHALTSASTLCQVEPVGRWFEA FVKRRNRNASASFQLEDKKELSEESQD EELQLEEFAMLKTLDPDWKNQDHYAV LGLGHVRYKATQRQIKAAHKAMVLKH HPDKRKAAGEPIKEGDNDYFTCITKAYE MLSDPVKRRAFNSVDPTFNSVPSKSEA KDNFFEFTVPVFERNSRWSNKKNPVPLG DMNSSFEDVDIFYSFWYNFDSWREFSYL DEEEKEKAECRDERRWIEKQNGATRAQ RKKEEMNRIRTLVDNAYSCDPRIKKFKE EEKAKKEAEKKAKAEAKRKEQEAKEKQ RQAELEAARLAKEKEEEEVRQQALLAK KEKDIQKKAIKKERQKLRNSCKIEINEQ IRKEKEEAARMRQASKNTEKSTGGGG NGSKNWSEDDLQLLIKAVNLFPARTNSR WEVIANYMNIHSSSGVKRTAKDVIGKAK SLQKLDPHQKDDINKKAFDKFKKEHGV VPQADNATPSEFEGPYTDFTPWTTEEQ KLLEQALKTYPVNTPERWEKIAEAVPGR TKKDCMKRYKELVEMVKAKKAAQEQV LNASRAKK
4962	13013	A	5838	1	1909	DVSRCAHRARPGAIMLLPSAADGRGTA ITHALTSASTLCQVEPVGRWFEAFVKRR NRNASASFQLEDKKELSESEDEELQLE EFPMLKTLDPKDWKNQDHYAVLGLGH VRYKATQRQIKAAHKAMVLKHHPDKR KAAAGEPIKEGDNDYFTCITKAYEMLSDP VKRRAFNSVDPTFNSVPSKSEAKDNFF EVFTPVFERNSRWSNKKNPVPLGDMNS SFEDVDIFYSFWYNFDSWREFSYLDEEE KEKAECRDERRWIEKQNRATRAQRKKE EMNRIRTLVDNAYSCDPRIKKFKEEKA KKEAEKKAKAEAKRKEQEAKEKQRAE LEAARLAKEKEEEEVRQQALLAKKEKDI QKKAIKKERQKLRNSCKTWNHFSDNA ERVKMMEEVEKLCDRLELASLQCLNET LTSCCTKEVGKAALEKQIEEINEQIRKEKE EAEARMRQASKNTEKSTGGGGNGSKN WSEDDLQLLIKAVNLFPAGTNSRWEVIA NYMNIHSSSGVKRTAKDVIGKAKSLQKL DPHQKDDINKKAFDKFKKEHGVVPQAD NATPSEFEGPYTDFTPWTTEEQKLLEQ ALKTYPVNTPERWEKIAEAVPGRTKKDC MKRYKELVEMVKAKKAAQEQVLNASR AKK
4963	13014	A	584	1248	1667	TNTGGWGPRHHAFVQHTLELLSLLCLNC GFLVYPFFLSWTVMYGSVNLVNLKYG FQGIIVFYCYVIKKLKKIWLCLPRPRVP WLPTSDPSLRSPSSMVLNQICRVYSATK RGSVTGSWAYPCVLSRGMSELCKSRA
4964	13015	A	5840	3	231	SFFETESCSVAHPGAQWCDISSLP PPPG SSDCPASASRVAGITGTHHAWPIFV VETGFHCLPQPPIVLGLQA
4965	13016	A	5841	2	300	RRRLALSPAGVHWHGLGSLQPPPPWFER FSCLGLLSGWDCRRAPPRPASFFVFLVET GFRHVKGKGLDFLT/S/GDPPALASQGA WLAGVSHRTRPQIHFF
4966	13017	A	5842	227	290	
4967	13018	A	5843	1	225	HCNFFLPVQAILGSSNSRASASRVAGTTG ALQHMQILFCILVETGFHRVAQAGDLL SLTIHPPRPPKVLGLQA
4968	13019	A	5844	3	147	LEIFFFFSFTFF/CRWGLTMFIRLVNFW PQMILLPLPLPPKVLGLQA
4969	13020	B	5845	47	241	GGKDFNMPLTISRITPGSKAAQSQLSQG DLVVAIDGVNTDTMTHLEAQNKIKSASY NLSLTLOK*

4970	13021	A	5846	3	408	CGGIPSQATIFTLSTLISSVTSLNSTSFSTK VHTLSQNLVVFREPLKLTFLTL*ASAAF IALSN*SRT*RASWGVIC*DCMSSSRPPE DCFPK*YFCITDMPWLRKNNFFSTFQSK CRF*GTPICQKDKTSKK
4971	13022	A	5847	1	2209	AAADSTMSYSVTLTGPGPWGFRLOQGG KDFNMPLTISRITPGSKAAQSQLSQGDLV VAIDGVNTDTMTHLEAQNKIKSASYNLS LTLQKSKRPIPISTTAPPVQTPLPVIPHQK DPALDTNGSLVAPSPSPPEARASPGTPTGTP ELRPTFSPAFSRPSAFSSLAESDPGPPRA SLRAKTSPEGARDLLGPKALPGSSQPRQ YNNPIGLYSAETLREMAQMYQMSLRGK ASGVGLPGGSLPIKDLAVDSASPVYQAV IKSQNKPEDEADEWARRSSNLQSRFRIL AQMTGTTEFMQDPDEEALRRSSTPIEHAP VCTSQATTPLLPASAPPPAAASPSAASPP LATAAAHTAIASASTTAPASSPADSPRPQ ASSYSPAVAASSAPATHTSYSEGAAPAP KPRVVTTASIRPSVYQVPASTYSPSGA NYSPTPYTPSPAPAYTPSPAPAYTPSPVPT YTPSPAPAYTPSPAPNYPAPSVAYSGGP AEPASRPPWVTDDSFQKFAFGKSTTSIS KQTLPRGGPAYTPAGPQVPLARGTVQR AERFPASSRTPLCGHCCNNVIRGPFLVAM GRSWHPPEFTCA YCKTSLADVCFVEEQN NVYCERCYEQFFAPLCAKCNKIMGEV MHALRQTWHTTCFVCAACKKPFQNSLF HMEDGVEPYCEKDYINLFSTKCHCCHFP VEAGDKVIEALGHTWHDTCFICAVCHV NLAEQQPFYSKKDRPLCKKHAHTINL
4972	13023	A	5848	1	537	RTRGGDVKTDLNNIEEFLEETLTPEKYPI LAAKHREYNTEDIDIFYKFSAYIKNTKQQ NNAALERGLTKALKKVDYDNLTPPQE RDAYTCGEDKGTRRKFLDGDDELTLAD CNLALPKLHVVKIVGKKYRNYHIPADMT GLWRYLKNAYARDEFTNTCAADSEIEL AYADVAKRLSRS
4973	13024	A	5849	1	654	WEGPTCSMCKVIGIHNACEEAPLHVSFH GQKTELNNCISMLVAANDRVHTIITQLE DSRRVTKENSHHVNRKLSQKFDTLYAIL DEKKSELLRISQEQEKKLIFIEALIQYYQ EQLDKSTKL VETAIQSLDEPGGATFLLTA KQLIKSIVEASKGCQLGKTEQGFMNMF FTLDLEHIADALRAIDFGTDEEEEFIEEE DQEEEEESTEGKEEGHQ
4974	13025	A	585	334	696	IKPEMEAGISVTLGLDRNTRVQVGCREL RSTKYISGWASCTSIQPSGREL/VCVVGE CLPLPVVPNWIGGGYGTKYWSRRSSQ EWAVCSMDKTRYPEDSQLQCQDGSTR YKITVSSLPAS
4975	13026	A	5850	141	626	LLWILIAAPPPPPVIRNGARGCSPSTTIP NAWGQEPPrPRERPPPPSRDAIAGATPS FLPPPLRNHRDSIHHCSGL/CLDDFESK YSFHPVEDFPAPPEYKHFSEDVPSKTNR AARGVAPLPPLQVKPGLVPFLIKRMDL LFFSYGPLHSSSELLHDSS
4976	13027	B	5851	23	160	MQHVCAMRQVDIDAYTTCLYASGTTTPV PQLPLLMALLGLCTLVL*

4977	13028	A	5852	221	1645	APRMRLLAWLIFLANWGGARAEPGKF WHIADLHLDPDYKVS KD PFQVCQSAGS QPRGPTQAPWGDYLCDSWALNNSIY AMKEIEPEPDFILWTGDDTPHVAPDEKLG EAAVLEIVERLTKLIREVFPD TKVYAALG NHDFHPKNQFPAGSNNIYNQIAELWKP WLSNESIALFKKGAFYCEKLPGPSGAGRI VVLNTNLYYTSNALTADMADPGQQFQ WLEDVLT DASKAGDMVYIVGHVPPGFF EKTQNKAWFREGFNEKYLVVRKHHRV IAGQFFGHHHTDSFARMLYDYAGVSISA MFITPGVTPWRTTLPGVVNGANNPARRV FEYDRATLSLKDMVTYFMNLSQANAQG TPRWELEYQLTEAHGVPHATAHSMHT VLGRIVGDKSTLQRYVYVNSVSYSG VCDEACSMQHVCAMRQVDIDATTTCL YASGTTAVPQLPLL MALLGLCTTRAV TCQAHSSW
4978	13029	A	5853	3	126	AYGDSMCAKCVSDRIKHAFI KEQKIIV KVLKAQAGSQKAK
4979	13030	C	5854	306	386	MLFLKAIWGGSDSWSREAA CPLNCNL*
4980	13031	A	5855	709	1199	AGVGVRGTTGRLVVRKFLTIFGNPLFL VAPPKPHSEWSQRLTYRRRPSPYNTAL* QK/RRHRSHNQIPPRIVYLLYPRRLGKHP NSACGVCPRQEFEGVRAVRPKVLMRL SKTKKHVS RAYGGSNVCLNVFRDIKR AFLNEEQKIIVVKVLKAQAGSQKAK
4981	13032	A	5856	1	219	HRGYLLFNLFVEVISSEQSVLAPPVRR*T CIVANLRGVGDPDTSRHCAQGLGFKLLT LYSLLVGSESWGGARA
4982	13033	A	5857	112	312	LCTVCLWALKAGVGPEPERLIYSVPVFV */HAVCAGIADGGSFSSKVRCLHFFYTG ISIKMFLYIK
4983	13034	C	5858	133	237	MFMDXXXXXXGGRFKGSLGGPKFTRAC KVKFFSL*
4984	13035	C	5859	61	177	MRIHKRLIDLHSPSEIVKQITSISIEPGVEV EVTIADA*
4985	13036	A	586	258	382	
4986	13037	C	5860	100	153	MSPPKSKGPFPRFPGRF*
4987	13038	C	5861	142	195	MSPPQSKGPFPKFPGRF*
4988	13039	A	5862	11	90	
4989	13040	A	5863	3	759	TVPLEVLLRKVGAAGGARGVIRLLDW FERPDGFLLVLERPEAQDLDFITERGA LDEPLARRFFAQVLA AVRCHSCGVVH RDIKDENLLAVLRSGELKLIDFGSGALL MDTVYTDGTRVYSPPEWIRYHRYHG RSDTVWSLGVLLYDMVCGDIPFEQDEEI LRGRLLFRERVSPECQLIRWCLSLRPSE RPSLDQIAAHPWMLGADGGAPEQ/DCDL RLCTLDPPDVASTSSSETLLRSLHLTGS
4990	13041	A	5864	1	422	
4991	13042	A	5865	2	435	ILAEFGSLHLEFLHLELSGNQVFAEKVR NIRKVL RKIEKPFGLYPNFLSPVSGNWV QHHVSVGGLGDSFYEYLIKSWLMSGKT DMEAKNMYEAELET/HKLGPEAFWFNS GREAVATQLSESYILRPEVVESYMYLW RQTHNTK
4992	13043	A	5866	1	837	
4993	13044	A	5867	1	415	TKLGPEAFWFNSGREAVATQLSESYIIL RPEVVESYMYLWRQTHNPIYREWGWE VVLAEKYCRTEAGFSGIQDVYSSTPNH DNKQQSFFLAETLKYLLFSWEDDLLSL EDWVFNTAEHPLPVNHSDSSGRAGGRH



4994	13045	A	5868	1	1187	ESFHLNVSGEASLFEVNIRYIGGLLSAFY LTGEEVFRIKAIKRLGEKLLPAFNTPTGIPK GVVSFKSGNWGWATAGSSSILAEFGSLH LAEFLHLTELSGNQVFAEKVRNIRKVPQV SFEKPFGLYPNLSFVSGNWVQHVSFG GLGDSFYEYLIKSWLMSAKTDLEAKNM YYG/APLEAIETYLLNVSPGGLTYIAEWR GGILDHKMGHLACFSGGMIALGAEDAK EEKRAHYRELAVQITKTCYESYARISDTK LGPEAFWFNSGREAVATQLSEE/ITYILR PEVVESYMYLWRQTHNPASYREWGWE VVLALKEYCRTEAGFSGDSKTCYSRHPQ PRTTSRQSFFLAETLNRCLVSACNGPDTG LEARDTAESETVISPAVKGSRGEKAMVR ETD
4995	13046	A	5869	1	1561	MIFVVIILMVVLSPEGGSGLDSSPFLSEA NAERIVQTLCTVRGAALKPYPTGPNFR YSHGVPPHFLFAYFPPGSTVSQDNSFISQ LQHIFERVQRQADFMPRWQMLRVLEEEL GRDWQAKVASLEEVFPAASIGQVHQG LLRDGTEVAVKIQYPGIAQSIQSDVQNL AVLKMSAALPAGLFAEQSLQALQQLA WECDYRREAACAQNFRLANDPFFRV PAVVKELCTTRVLGMELAGGVPLDQCQ GLSQDLRNQICFQLLTCLRELFEFRFMQ TDPNWANFLYDASSHQVTLLDFGASREF GTEFTDHYIEVVKAAADGDRDCVLQKS RDLKFLTGFETKAFSDAHVEAVMILGEP FATQGPYDFGSGETARRIQDLIPVLLRH RLVSP/PEGDLWPWHRKLAAGAFACAH LRDHIACRDHKPGHLPPLGQSPARRSH CRQPPHQRTGPGWIPHDSLHGGFSPQSR PYPVAVPLIPSPSALGQRSPLGLPSLAWL SSLAPKTQESLGLGNSP
4996	13047	A	587	1637	1832	VFSTRCGTHPPVCLAEFVKRLRYCEYLG KYFCDCCHSYAESCIARILMMWDFKK YYVSNFSKTA
4997	13048	A	5870	1	1532	MPQALERADGSWAWVLLATMVTQGL TLGFPTCIGIFFTELQWEFQASNETSWFP SILTAVLHMAGPLCSILVGRFGCRVTVM LGGVLASLGMVASSFSHNLSQLYFTAGF ITGLGMCFSFQSSITVLGFYFVRRRVLAN ALASMGVSLGITLWPLLSRYLLENLWGR GTFLVFGGIFLHCCICGAHRPVATSVAPE TKECPPPPETPALGCLAACGRTIQRHLA FDILRHNTGYCVYILGVMWSVLGFPLPQ VFLVPYAMWHSVDEQQAALLSIHGFNSI FLRPLAGLMAGRPAFASHRKYLFSLALL LNGLTNLVCAASGDFWVLVGYCLAYSV SMMSGIGALIFQVLMDIVPMDQFPRALGLF TVLDGLAFLISPLAGLLDATTNNF*DVF QQCPSPFP*SKAPLLKGGSPFPQKKEQ GKQAVAADAALERDLFLEAKDGPQKQR SPAEIMCQSISRQPRPAGVNKHLWGCPAS SRTSHEWLFWPKAVLQAKQTALGWNSP T
4998	13049	A	5871	946	1279	QTELGVRFPTLPFLGSGARGCSGRFVLF VDFRVQPGFRKENLIQGDLFMNRQSS RQPRPAGVNKHLWGMSCP/ASRDPAMK WLLWPKAVLQAKQTALGWNSPYLECP V
4999	13050	A	5872	3	297	ESCSVTQAGVHW/CNLGSLQSPSPDSSD SPSSVSRVAGITGMCHHAQLIFVVFVETG FHHGEAGLCLRLPKCWDYRCEPPRLHL GLQLNFTYKDRCLA

5000	13051	A	5873	276	880	KADSEQHGEAKRRYSSSLAKKEVSKAPE DKKKRLEDDKRKKEDKERKKKDEEKVK AEEESKKKEEEEKKKHQEEERKKQEEQA KRQQEKIEAAAHMKEKEESIQLHQEAWE RHHLKKELCSKNQNPAGSRPKENFFSRL DSSLKKNTAFVKKLKTPEQQRDSLSHD FNGLNLSKYIAEAVASIVEAKLKISDVNC AVHLCS
5001	13052	A	5874	2	619	LDLDFNAILIVTSLAPFFQDCMSENALH ELNIELLRNKLYKSYLEAFYKFCCKNHGD VTAEVMCPILEFEADRRAFIITLNSFGTEL GQEDRETLYPNLGQLLSEGFALALAQAE DFDQMKNVADHYGVYKPLFEAVGGIGG KTLEDVFYEREVQMNVLAFNRQFHYGV FYAYVKLKEQEIRNIVWIAECISQRHRTK INSYIPIL
5002	13053	A	5875	1842	2306	GPRRLAAFLTSAGDGVYTRPVVFHDCTC ATFHREDAYRLPFIPTNHHTASPE*VPP HPHLGALQLPGDPSHDIHSIGTPNSNADA PKAGGCKWTQTRSVVPNSALGRKGSTH LPRIYTFTLALPETKLSNCPKAPPIGLEH TSLAWALGTAD
5003	13054	A	5876	301	471	
5004	13055	A	5877	269	394	
5005	13056	A	5878	524	604	
5006	13057	A	5879	187	401	VSCPGSNSPLGSSSASGASSLNFLPSVPV R*SVSGLNLRVPAMARAVTISGDVTKA WVSGFASLRPVKFL
5007	13058	A	588	1	856	MKRSMILTIFHSERJILRNRQPPKESWE DIEDFGETHDLFLKQYGFENGIPVHDTI ARVVSCISPAKFHECFINWMRDCHSSND KDVAIDGKTLRHSYDKSRRRGAIHVISA FSTMHSLVIGQIKTDKKSNEITAPELLN MLDIKGIITTDAMVNCIVKVTGVFAING DQRVAEPDSGALCQVRYPGNHRNDQRY LFRHSDSELLHWMVALDAVVRVKCL WMSLHKVYSCIPELPPQESAGVHSGSQ YA*CNRTRPHGQKPGTSAPGSSGVWRIT SV
5008	13059	A	5880	667	888	AHTVHIRRSASRLPAGPASRLVDLSH*DL GHVP/AGFFLIMNVQQEGLADLSTSAHL LGAPLVKGSRPHAWADAW
5009	13060	A	5881	1	163	GLVDESFDVTSPTGPSSADATTSVRAAK KRAPYTLVGSISEPGLGLISWWTSN
5010	13061	A	5882	183	426	
5011	13062	A	5883	1	1152	MHNSDGIEVMRQQKAEIGRVGGLEGIL GVTEVIVNGARMLESYNCKAELGATGL VNYQISVKCSNQFKLEVYLLNAENKVV DNQAGTQGQLKVLGTNLWWPYLMHEH PAYLYSWEGRPDGAQAVGALTPGTLAV EVWLTAQKSLGP/SDFYTLVPGLRTVAV TESQFLISGKPFYFHGVNKHEDADIQK GFNWPLLVKDFNLLCWLGANTFCTSHY PYTEEMLCICYRYGIVVIDECPAPSGHT GPSVPSLLARWQLFNNVSMHHHMWV EEPVLDRDNHPAMVMWSLAKEPASFLE SAGYSFKSLTMEQTARVLDLDTGEAVLQ YRSLPRGAHKTGKKRKISSYNVDLTSC QLAKEKCLKGPSSFLQSRQERMNSELRD N
5012	13063	A	5884	401	882	CTNTPPTWTRGRMVIAHTKALDPSQPVT FVTNVTYAADKGALYVDVTPLNSYYS YRNYGHLAELQLQLAAQFENWCKTSQ SHYSERVWSGNAL*GFHQDPPLMFQ*RG PGKVLLQYHLGLDQKRRKYVVGELIW NFADFMTNQCVSFLVGNENSANL

5013	13064	A	5885	197	1184	ETSHQVMDRSNPVKPALDYFLNRLVNY QISVKCSNQFKLEVCLLNAENKVVDNQA GTQGQLKVLGANLWWPYLMHEHPASL YSWEGRPDGAQAVGALTGALAVEVR LTAQKSLGP/SDFYTLVPGLRTVPVTESQ WALYVDVIRVNSYYSWYRNYGHLELIQ LQLPAQFENWCKTSQSHYSERVWSGNA YRVSPGGGNLPHALPCCSQNLALPTFSP GTVVISLALSLIGLWAQETGVLFIVVSQD PPLMFSEEVQKSLLEQYHLGLDQKRRKY VVGELIWNFADFMTNQCKWQFSAWDN VPVLIFSGCLAHS GHFGCKNIGNKGGKL V
5014	13065	A	5886	1	657	
5015	13066	A	5887	76	614	VCQYCTARMADFGISAGQFVAVVWDKS SPVEALKGLVDKQLALTGNEGRVSVENI KQLLQCLVPGSTTLHSAEILAEIARILR PGG\CLFLKEPVETAVDNNSKVKTASKL\ CSALTLSVGLVEVKELQREPLTPEEVQSV REHLGHESDNLLFVQITGKKPNFEVGSS MQLKLSITKKS
5016	13067	A	5888	102	1292	ACQYCTARIVDFEISAGQFVA*VWDKSS PVEALKGLVDKQLAF/TPGNEGRVSVEN IK\QLLQSAHKESSFDIHL\SLVPGKAPL WHS*DFWAGNPPGFLRPGWMFFFLKE PVETAVR*Q*AKWKTASKLCSALTLSGL V/EK\KELQREPLTPEEVQSVREHLGHES DNLLFVQITGKKPNFEVGSSRQLKLSITK KSSPSVKPAVDPA*AAKLWTL SANDMED DSMCIFCGCSLTHRWPLEHVRLNMMI NQKEDRVDITFFLDSKFPLEACSHFSFSL AETTTVSLIALNTLQDLIDSDELLDPEDL KKPDPASLRAASC GEGKKRKACKNCTC GLAELEKEKSREQMSSQPKSACGNCYL GDAFRASCOPYLGMPAFKPGKVLSD SNLHDA
5017	13068	A	5889	1	747	MGFRYVAQAGLELLSSDPSIPSSKTLOEQ NDQSYPTSLPVFPEVALHTLLWGEDANN SKVKELQREPLTPEEIQSVREHLGHESDN LLFVQITGKKPNFEVGSSRQLKLSITKKS SPSVKPAVDPA*AAKLWTL SANDMEDDS MDLIDSDELLDPEDLKKPDPASLRAAS CGEGKKRKACKNCTCGLAELEKEKS EQMSSQPKS\CGNCYRGAMPSGCASCP YLGMFAFKPGKVLSDSNLHDA
5018	13069	A	589	148	333	
5019	13070	A	5890	2	152	YRHMAPHTNFKK/FFCRDGLVMLPR LVFNSWPQGILLPQPKVLGLQV
5020	13071	A	5891	1	581	EKQSCSKSCGETFNSITKRRHHCKLCGAVI CGKCSEFKAENSRQSRVCRDCLTQVVA PESTEKTPTADPQPSLLCGPLRLSKSGET WSEVWAAIPMSYPQVLHLQGSQDGR PRTIPLPCKLSVPDPEERLDSGHVWKLQ WAKQSWYLSASSAELQQWLETLSTAA HG\DTAQDSPGALQLQVPMGAAAP
5021	13072	A	5894	1	303	PCGARQGC GPPRL/CSSRRTSQELLSK PVPPPAPGGPASRVGRGSVSGALSPAWN GERQHHRGVVLTHPQSPNHQAGSPNPN TRQALATLSVPNKPPIE
5022	13073	A	5895	1	284	ATESCSVAQGVQWCDLSSLQAPPGFT PFSSLSLQGSWDYRSPPPHPANFFVVLVE /MASASQSAGITGVSHRTRPRIAIFNLTEN TNGSVDED
5023	13074	A	5896	3	338	GIHGWSYGGYLSLMLMQRSDFRVAIA GAPVTLWIFYDTGYTERYMGHPDQNEQ GYYLGSVAMQAEKFPS/EIYPQERHSIRV PESGEHYELHLLHYLQENLGSRIAALKVI
5024	13075	A	5897	1	1200	

5025	13076	A	5898	2	594	NRGSCHRGLKFEGAFKYKMQQIEIDDQV EGLQYLASRYDFIDLDVRVGIHWSYGG YLSLMALMQRSDIFRVAIAGAPVTLWIF YDTGYTERYMGHPDQNEQGYLGSVA MQAEKFPSEPNRLLLLHGFLDENVHFAH TSILLSFLVRAGKQYDLQIYPQERHSIRV PESGAEHYELHLLHYLQENLGSRIAALKV I
5026	13077	A	5899	74	248	KTLWMVNRTVLAGICSQQLSAGTAT/DV SKHRLQGFIPCRIPS/ASPQTQRKFSLQFH RNC
5027	13078	A	59	582	1303	GACSRAGLWLLGQGLLPRIYQLSEDCV SWSCHQPLSPQSLIWARTESSPDTQS GEDRKTSFVGHQPTALGGLGQSIESLMS SEAETEERRCTWMQLSETNRTLFLFGVT KYTAGPYECEIWNSSGSASRSDPVTNLNLL HGLDALTISSSYTYHTGEVPKLSCLIDT HPLAEHSWLIGGKFQSSAQVFIPQITKT YRGVYVCFIHNSATGGTNLIKRIVPDHS LRSALSLEVTGS
5028	13079	A	590	311	576	
5029	13080	A	5900	258	552	CMVFHD/VSGACCCNGETTGKISGGGNQ LGSSPIGGPNPS/SGSSQTSISGDVVEACC SVLSMVCADPVYKVYVAALLLERELPG VFSGKIFNLLSDCLLW
5030	13081	A	5901	1	1660	
5031	13082	A	5902	1	1947	MALRRLSHDVSGALLANGESTGNSGG SSGSSPSGGATSGSSQTSISGDVVEACCS VLSMVCADPVYKVYVAALQCMLLVTL EDPSSHFRMRRLM/AYADEVEIAEAIQ LGVEDTLDGQQDSFACRHLFPTTIWKPQR TVP/LECTIHLEKTGKGLCATKLSASEDI SERLASISVGPSSSTTTTTTEQPKPMVQ TKGRPHSQCLNSSPLSHSQLMFPALSTP SSSTPSVPAGTATDVSKHRLQGFIPCRIPS ASPQTQRKFSLQFHRNCPENKDSKLS VFTQSRPLPSSNIHRPKPSRPTPGNTSKQ GDPSKNSMTLDLNSSSKCDSFGCSSNS S/NCCYTSDETVFTPVEEKRLDVENTEL NSSIEDLLEASMPSSDTTVTFKSEVAVLS PEKAENDDTYKDDVNHQKCKEAMEA EEEEALAIAMAMSASQDALPIVQLQVE NGEDIIIIQQDMTFFRHIIPPIQWIYKKESA NLLIDSTGQRLRIADFGAAARLASKGTG AGEFQGGLLGTIAFMAPEVLRGQYGRS CDVWSVGCIIEMACAKPPWNAEKHSN HLALIFKKLLDFANTACDGDKESEVEDV ETDSGNSPEDLRKEIMIGLQYQAEIPPYL GEYDGNKEDSPQPKMTGVQNAKEVLS T
5032	13083	A	5903	1	4491	PSPEAGGGGGALKASSARAAAAGLLRE AGSGGRERADWRRRQLRKVRSVELDQL PEQPLFLAASPPASSTSPSEPADAAGSG TGFQPVAVPPPHGAASRRGAHLTESVAA PDGASSPAAAEPGEKRAPAAEPSAAA PAGREMENKETLKLHKMDDRPEERMI REKLKATCMPAWKHEWLERNRGPGV VVKPIPVKGDGSEMNHAAESPGEVQAS AASPASKGRRSPSGNSPSGRTVKSESPG VRRKRV
5033	13084	A	5904	1940	2062	
5034	13085	A	5905	785	892	
5035	13086	A	5906	1	2745	
5036	13087	A	5907	1	3297	
5037	13088	A	5908	1	2202	
5038	13089	A	5909	1	2868	

5039	13090	A	591	279	602	FFLSEILSVSLTFFIISNYYYYSQVINS LAVY RHRETDFGVGVVRDHPGQ/PWQNPISHEK LDNLIHIIIGFLRRYTFNILFCTSCLCVSILT FCRGILVITNKNKLYKTK
5040	13091	A	5910	1	3237	
5041	13092	A	5911	1	2001	
5042	13093	A	5912	1	2982	
5043	13094	A	5913	1169	3269	VHCRFWILALCQMSRLQKSPLLFNIVLE VLAKAIKQEKEIKGIQLGKEEVKLSLFAD DMIVYLENPTVSAQNLLKLSNFSKVS YKINVQKSQAFLYTNNRQTESQIMSGLP FTITSKRITYLGIQLTRDVKDLFKENYKP LLKEIKEDTNKWKNIPCSWVGGRINLVK MAILPKVIYRFNAIPKLPMTFFTELEKTT LKFIWNQKRALIAKSSLSQKNKTGGITLP DFKLYYKATVTKTSWYWYQNRDIDQW NRTEPSEIMPHIYNLIFDKPKDNKQWG KDSL FNKWCWENWLAICRKLKLDPFLT PYTKINSRWIKDLHVRPKTIKLEENLGN TIQDIGMGKDFMSKTPKAMATKAKIDK WDLIKLSFCTAKETTIRVNRQPTWEKI FATYSSDKGLISRIYNELKQIYKKKTNNPI KKWAKDMNRHFSEEDIYAAKHKMKKC SSSLAIREMQIKTTMRYHLTPVRMVIKK SGNNRCWRGCGEIGTLLHCWWDCCLV QPLWKS VWQFLRDLELEIPFDPAPLLGI YPEDYKPCCYKDTCTRMFIAALFTIAKT WNQPKCPTMIDGIKKMWHIYTMYYAA IKKDEFMSFAGTWMKLETILRKLSQGG KTKHRMYSLIGGNLTMRTFGHSAGSHH TPGPIMRCGAGGGIALGEIPNVNDEL MG TANQHGTCIPMQQNCTLCCTLKLKV
5044	13095	A	5914	2821	5794	
5045	13096	A	5915	457	651	
5046	13097	A	5916	3	637	KGDHVKHYKIRKLDNGGYIITRAQFET LQQLVQHYSERAAGLCCRLVVPCHKGM PRLTDL SVKTKDVWEIPRESLQLIKRLGN GQFGEVWNGTWNNGNTKVAIKTLKPGT MSPESFLEEAQIMKKLKHDKLVQLYAV VSEPIYIVTEYMNKGSLLDFLKDGEGR ALKLPNLVDMAAQVAAGMAYIERMNYI HRDLRSANILVGNGLICK

5047	13098	A	5917	1	2523	MHWKRPWQVGGYLTAAATDTVQMLNY MSVRQLSYLNFPNTWQFLSWSQMPTQQ AYPCVTHHTPPVLGQMACCISNQRRTA ALIGTRPERNVHVNLRQGFVNAHEP WVNEKVARQEPEDAGRGAVNRAWGFS PRLIHWSEGPQAAALGDRDPRWLPYHH AAALSGSHAAALSLAPSRSSALAVLIALL PAAQLHHHVPRSKACDIAYVGGHRRQV WYQGQEDGQQILVVPVLLSTTQQKVSAL WADRLEVRALLARSLAARLAPPSVHPCW V/VTFPSAVAWINAGSLDLKDGEGRA LKLPNLVDMAAQVAAGMAYIERMNYIH RDLRSANILMGNGLICKIADFGLARLIED NEYTARQDPTRSRGHRSSAMNPYGSRA GRGRVESGLTLQMAATQVTVQWSAHLV SGEAVAWNTFPTANQDRKELAALSCSCP STLCFMLLGLYPTLDHLQVRQSHCLTVS CAWQGLKPLFLWLAINKAEIEICLTLLKY WQADCELLASAYQHAWHTCARTQSSNL SIADIESLELVVKTFFHQKKIFGLTSYSG MFVGTWNGNTKVAIKTLKPGTMSPEFL EEAQIMKKLKHDKLVQLYAVVSEPIYI VTEYMNKGGDEGTREEIGQVKAPRRDN IPKPSAAHAAQLVMWHEVRLTRALCPF WGWLDSWHHFCVELHPTHPLITQKPKG KELTDVVHRSQFSGAQSRESIWIQRSM TKTPGAKLQKQAYQGVSNPHHHHTGQ QLKAVPHPLMEAPDAIDGYRKILVNFTKI YSAFAVTNSDYEWQPTLVAIGYRCGDP QGTERRTQKPTEVTTQLQPQPWLLRG HVGLVLLDHPFKEKP
5048	13099	A	5918	74	1002	SNESNAVALSTVERTARRDAPQHGTQPR GLPRSSEHPAQRATAATGKARQRRKTTA SAGAREGRRRLAGTTSIPGP/FSAPVHR HRPQEPRQGPRTPRRAEEKRDQMASHV ECRPLGVFECELCTLAPYSYVGQKPPN TQSMVLLEESYVMKDPFTSDKDRFLVLG SCCSLCSRLVCVGPVGRMEVEQHGFHSV PSVLRVTPSEKSLSICHLRTHTKGSCINS QGDEMGQGRSLRSVAWEYLRLMEELV VQEKLGKEDCKGNSARLGEKESSIKEDP QPARFSDGPGLECCSDVTERDDLQGG SS
5049	13100	A	5919	3	401	RSRGTRAAMASHVECRPLGVFECELCTL TAPYSYVGQKPPNTQSMVLLEESYVMK DPFTSDKDRFLVLGSCCSLCSRLVCVGP VG\CSLFYSKRFLPCVRENINAFQEIQR DLEKRKAPSKRTPSQPGSRT
5050	13101	A	592	66	1474	TAPPPSPSPSLLSPCNGVHHVSTQPSCP GRGKMSKLLNPEEMTSRDYFDSYAHF GIHEEMLKDEVRTLTYRNSMYHNKHVF KDKVVLGVGSGTGILSMFAAKAGAKK VFGIECSSISDYSEKIIKANHLDNITIFKG KVEEVELPVEKVDIIHSEWMGYCLFYES MLNTVIFARDKWLKPGGLMFPDRAALY VVAIEDRQYKDFKIHWWENVYGFDMTC IRDVAMKEPLVDIVDPKQVVTNACLIV WTLIRGGPGCAGSPAVPPWSPGNAGSCT APTWARAKVVRLRYEPEVRLEGHATLV TEGTTKERYQGPWKEPGAWLIGPEKVM EKSVLTPNVILDASYCWELAYQKIGEGV VWFIYITGGPKDTQIAVLVQQEVDIYTV KTEELSFTSAFCLQIQRNDYVHALVTYF NIEFTKCHKKMGFSTAMEEPCIPFVLSK EKVNNVVVVTAQVESVLDEGEAG

5051	13102	A	5920	96	615	NIILRNSIITSRKIKYTTLSSTHSIFLPQISP QMSLIGFFYESEANKGSHFPFGYVSCNLN AETT/SLFYIICFLKSPDQGGQNAQTMAY NITPLRRAVECVQDQFGFINYEVGDSK KLLFFHMKEV/SRDGQCSAWNVPSSLR GPKA\VAAPRPDRLVSRKNITLDDAS DPR
5052	13103	A	5921	1497	2853	EMVLVSSSVWVMFVCSSTS VKFWMG SSHIADEVFTVVPDMLSAQRNHAIKIK LPKGTVSFHS SHDRFLGTVEKEATFSNP KTTSPNKGKEKEAEDGIIAYDDCGVKLTI AFQAKDVEGSTSPQIGDKVEFSISDKQRP GQQVATCVRLGRNSNSKRLG YVATL KDNFGFIETANHDKIEIFFHYSEFSGDVDS LELGDMVEYSLSKGKGKGVSAEKVNKT HSVNGITEEADPTIYSGKVIRPLRSVDPT QTEYQGMIEIVEEGDMKGEVYFPFGVGM ANKGDCLQKGESVKFQLCVLGQNAQTM AYNITPLRRATVECVKDQFGFINYEVG DSKKL\FFHVKKVQDGMELQAIGDEVEF SVILNPAATGKVQAPCNVWRVCEGPP RLAQAP\RPDRVGSIRLKNITLDDASAPR LMV\LRQPKGDQITSMGF\GAERKIRQA GVID
5053	13104	A	5922	23	206	
5054	13105	A	5923	1	267	ALFRDKLKHMGKSTRKLFELARAFSEK TKMRKSKRKHLKHQSRLGAAASTANL LDDVEGHACDENFRGQASRRAPQGGG RPCREGQ
5055	13106	A	5924	1	267	FFFFLTDILLE/CLFLRWSFTVTQAGVQ WSDLGSLQPPPRLKQFSCSLSSWDH KCLAPRANFCSFSKDGVS PCWPGWSQT PHLR
5056	13107	A	5925	1	325	MGTSSGSWPRWSVTAMPPTSMRPCSRR SSSCWPCIPRLPASTAP*SMRPHSGPRMT TRSC LKTRSYADGYSPPLNVAQRVVA/ W*GTQEKVMPPGRLAIPQRHRAGQQR
5057	13108	A	5926	366	489	QETTWPDLTKWLPG*RPWMGMSSGF ARWSVTAMPPTSE
5058	13109	A	5927	228	754	
5059	13110	A	5928	1	2709	
5060	13111	B	5929	76	925	XQCFFLSADSRIAELLTELHQLSKQTQEE RSRSEHNLVNIQK THERMQTENKISPY RTKLRGLYTTAKADAEACNLRKALD MIAEIKSLLEERRSAAKIAGLYNDSEPPR KTMRRGVLM TLLQQSAMTLPLWIGKPG DKPSQPSSPLVLAASKALQVLLGFLLYN LPCLSHRHHPQFLSRLRLPLYS GDCISQE CLNLVFLADVWFGLPSIYLVFLIILYEG LLGGAAYVNTFHNIALETSDEHREFAMA ATCISDTLGISLSGLLALPLHDFLCOLS*
5061	13112	A	593	379	475	DLQGVNHLRPGVQDQPGQHGETLSLLK IQNN/LARRGGGRL/QSQLRLRLRQDNRL NPGGGGCSEPRSRHCTPAWVTEQDPISK QNKRRQANFLIWEDFPYIPQGT KLIFTAQ KLPRCK
5062	13113	A	5930	3	1066	GSWGYQPTGLYAPTRR\GLNVILDWVQA HFPTDDFALAEFDGTNL YEHSDPREGYH QDWNTLIYNYGRREVSNFLVGNALYWI ERFGIDALRVDASMIYRDYSRKEGE WIPNEFGGRENLEAIEFLRNTNRILGEQV SGAVTMAEESTDFPGVSRPQDMGGLGF WYKWNLGWMHDTLDYMKLDPVYRQY HHDKLTFGILYNYTENFVPLSHDEVVH GKKSILDRMPGDAWQKFANL RAYYGW MWA FPGKKLLFMAAKIAGLYNDSEPPR KTMRRGVLM TLLQQSAMTLPLWIGKPG DKPPPLCGAIPASGDYVARPGDRLLARL

						KPLNGERAVDLSLEGGQVTAIATQQGM R
5063	13114	A	5931	53	506	FFVFLVEMGFHHVGGQAGLELLNSSDLPS SASQSAG/IRCEPLCPAFFFFSETESRSV AQAVVQWCDLSSLQPPPHFKRFFCLSL LSSWDYRHVPPCLANFCIFVEAGFHHV GQAGHKLLISSDPPASVSQSAGITGMSHC IQPHSPVFS
5064	13115	A	5932	1	346	SANATTKTSETNHTSRPRLKNVDRSTAQ QLAVTVGNVTVIITDFKIEKTRSSSTSSST VTSISAGSEQQNQSSSGVQRAPDKGLPP RSLPTPKGDMSAVNDEIFPEIATWNCEK L
5065	13116	A	5933	1	915	MGKEKTHINIVVNGHIDSGKSTSTGHLY KCGGINKRSIKKFEKKAEMGKGSFKSF VCDSSWYIPGHRDFITNIFTGTSQADCAV LVVAAGVGEFEAALLQDVYKIGIGTV PDGQVETVALKPGVVITFAPVNTTTEVK SVKMHHEALSEAFSGDNVGFHVKNVSV KDIHCSNNAGNCKNDPPMEAAGFTAQVI VLNHPGQ/DCHMAHIAACKFAELKEKIDR SSGKKLEDGPKFLKSGDVAIIDMVPGKP MCVESFSDYPPLGCFAACDMRQTVALG VIKAADKKAAGAGKVTKYPOKAQKAK
5066	13117	A	5934	1	759	
5067	13118	A	5935	30	706	KLPLKAKMGKEKTHINIVVIGHVDSGKS TTTGHLYKCGGIDKRTIEKFEKEAAEMG KGSFKYAWVLDKKAERERGITIDISLW KFETSKYYVTIIDAPGHRDFIKNMITGTS QADCAVLIVAAGVGEFEAVIFKNGQVTR EHALLAYTLGGKQLIVGVNKMDSPEPPY SQKKYEEIVNEVSTYIKKIGYNPDTRAFV PISGLNGDHMLEPRANMPWFKGWKSHP
5068	13119	A	5936	1	706	QSEQPCALPSRESTKLGGIGTVSSAPMET VGFNPGMVVTFAPSPR*QRKVKSAKMH HEALSEALSQEQLGASNVKNVFCQGM FRPWQTVAG*PAKNDPTQWEASWLSLL QVILNHPRPK*GAGPMPLYLDCHTAHI ACKFAELKEKIDRRSGKKLEDGPKFLK SGDAAIVDMVPGKP/MCVESFSDYPPLG RFAVRDMRQTVAVGVIKAVDKKAAGA GKVTKSAQKAQKAK
5069	13120	A	5937	364	458	VIEHLVSQDGLDFL/NLVICPPRPPKVLGL QA
5070	13121	A	5938	1	266	EMESRSIARMECSGISAHCKLRPLPGSH HSPASVSRVAGTTGTCHHARLIFYF/LL ETGFHCVSHDGLHLL/NLVICPPRPPKVL GLQA
5071	13122	A	5939	1	201	PPTGP/PKLDPVHLPPFGPPPSAWALPG MSPPSPDPDRNKLRIIRILKNASLSYLQVE VFPYPKMP
5072	13123	A	594	2	307	QAGV**WDLGSLQPLPRLKQFS/CILNP GNLSKEF*STKETQKQIFVGHISQTSKF AISLIQHPINMRSGTKTFMMV*GNKQRS KFIWTFKIFPDMLPS
5073	13124	A	5940	2	142	ESIQDYKHLCDLSFCQLPPDPPLTVPQ THNARDQWLQDAFHISL



5074	13125	A	5941	1	432	IHDELSRAARA/PDGPRAHAAGANAGPA AGPRRPVNLDLSALAALRKEMLSAIVGLR QLDMSLLCQLWGLYESIQDYKHLCDL SFCQDLSSSLHSDSSYPDAGLSDDEPP DASLPDPPLTPVQTHNARDQWLQDAF HISL
5075	13126	A	5942	3	696	VSMGALGLEGRGRLQGRGSLLLAVAG ATSLVTLLAVPITVLAVALVPDQGG/ LGFQKLPEEEPETDLSPGLPAHLIGAPL KGQGLGWETTKEQAFLTSGTQFSDAEGL ALPDGLYYLYCLVGYRGRAPPGGDP QGRSVTLRSSLYRAGGAYGPGTPELLLE GAETVTPVLDPARRQGYGPLWYTSVGF GGLVQLRRGERVYVNIHPDMVDFARG KTFFGAVMVG
5076	13127	A	5943	1	743	MGALGLEGRGRLQGRGSLLLAVAGAT VSLVTLLAVPITVLAVALVPDQGGV TETADPGAQAQGLGFQKLPEEEPETDLI PGLPTAHLIGAPLKGHGLGWETTKEQA FLTSGTQVSDAEGALPDGLYYIYCLV GITGRAPPGGDPQGRSVTLRSSLYRAG GAYGPGTPELLEGAETATPVLDPARR QGFWPLWYTSVGFGLVQLRRGERVYV NISHPDMVDFARGKTFFGAVMVG
5077	13128	A	5944	1	588	MGFLHVGQAGLKLLTSGHYQKKRMFSE NEENVKRMKTSEQINENICVSLERQTAF EQVPESFEHLPLPEPPAPLPVLDKTRD TLPPQKPELKVKRVFRPNGIALTNITKI NPKCAPEEKYPLFLCHENSNNKLIWKKI GEIKALPLMACTLSQFLASNRYFTVQ SKDIFGRYGPFCDIKSIPGFSENLT
5078	13129	A	5945	3	495	EDTGTFRIVESAGAVKKARGFLEFVEDF IQVSKNLIGKVIGKNGKVIQEIVDKSDMV PVRJEGDSENKLPREDKDDRDSRHQRDS RRCPGGRCRSVSGRRGRGGPRGGKSSIS SVPKDPDSNPYSVLN/TESDQTADTAS KSHHSTNRHTRSRRRTDEDAVL
5079	13130	A	5946	1	2065	MAELTVEVRGSNGAFYKGFIKDVHEDSL TVVFENNWQPERQVPFNEVRLPPPPDIK KEISEGDEVEVYSRANDQPCGWWLAK VRMMKGFEFYVIEYAACDATYNEIVTFER LRPVNQNKTVKKNTFFKCTVDVPEDLRE ACANENAHKDFKKAVGACRIFYHPETT QLMILSASEATVKRVNLSMDHLRSIRTK LMLMSRNEEATKHLECTKQLAAAFHEE FVVREDLMGLAIGTHGSNIQARKVPGV TAJELDEDGTFRIVGESADAVKKARGFL EFVEDFIQVPRNLVGKVIGKNGKVIQEI DKSGVVRVRIEGDNENKLPREDGMVPP VFVGTKEIGNVQVLLYHIAYLKEVEQ LRMERLQIDEQLRQIGMGFRPSSTRGPEK EKGYATDESTVSSVQGSRSYSGRGRGR GPNYTSGYGTNSELNPNSETESERKDELS DWSLAGEDDRDSRHQRDSRRRPGGRGR SVSGGRGRGGPRGGKSSISSVQYRSNIH NCSTLKRIFLASDMNIVLKDPSNPYSLL DNTESTDQTADTASESHHSTNRRRRSRR RRTDEDAVLMDGMTESDTASVNENGLD DSEKKPQRRNRRRRRFRGQAE/DRQPAI DFIYKEVEKVVSLLWQAKDVIEEHGPSEK AINGPTSASGDDISKLQRTPGEEKINTLK EENTQEA AVLNGVS

5080	13131	A	5947	1	1876	MADVTVVEVRGNGAFYKGFIDVHEDS LTVVFENNWQPERQVPFNEVRLPPPPDI KKEISEGDEVEVYSRANDQEP CGWWLA KVRMMKGEFYVIEYAACDATYNEIVTFE RLRPVNQNKTVKKNITFFKCTVDVPEDL REACANENAHKDFKKAVGACRIFYHPE TTQLMILSASEATVKRVNLSMDHLRSIR TKLMLMSRNEEATKHLECTKQLAAAFH EEFVREDLMGLAIGTHGSNIQQARKVP GVTAIELDEDGTGTFRIYGESADAVKKAR GFLEFVEDFIQVPRNLVGVKVGKNGKVIQ EIVDKSGVVRVRIEGDNENKLPREDGMV PFVFGTKESIGNVQVLEHYHAYLKEVE QLRMERLQIDEQLRQIGSRYSYSGRGRGR RGPNTYSGYGTNSELNPNSETESERKDEL SDWSLAGEDDRDSRHQRDSRRRPGGRG RSVSGGRGRGGPRGGKSSISSVLKDPDS NPYSLLDNTESDQTADTDASESHHSTN RRRR/SIRRRRTDEDAVLMDGMTDSDT ASVNENGLVTVAADYISRAESQSIQRNLP RETLAKNKKEMAKDVIEEHGPSEKAING PTSASGDDISKAT/RVLRGEEKINPLKEE NTQEA AVLNGVS
5081	13132	A	5948	1	392	TESERKDELSDWSLAGEDDRDSRHQRDS WRRPGGRGRSVSGGRGRGPRGGKSSIS SVLKDQPSNPYSLLDNTESDQTADTD SESHHSTNRRRRSRRRTDEDAVLMDG MTNESDTASVNENGLGKRCD
5082	13133	A	5949	269	973	PAACPSPANNICFYGECSYYCSTEHALC GKPDQIEGASLGAFPLDSLAKRKTWRN PWRRSYHKRKAWEVDPDYCEEVKQT PPYDSSHRILDVMDMTIFDFLMGNMDR HHYETFEKFGNETFIIHLNDRGFGKYSH DELSILVPLQQCCRIRKSTYLRLQLAKE EYKLSLLMAESLRGDQEA PVLYQPHLEA LDRRLRVVLKAVWDCVERNGLHSVVD DDLDTEHRAASAR
5083	13134	A	595	374	665	GAQGLSLSPRLECNGAILAHCNLCPLGSS NSPGSAS*VAGTIGMHHRMLFVFLVE SGFHHVGOAGLELLTSSDPPASASQSAGI RGISRRAGLDF
5084	13135	A	5950	1	106	
5085	13136	C	5951	146	280	MVFKDQKMRFCFCNQXXXXLMNLXXX XXXVLEKKGGSPFVFL*
5086	13137	A	5952	2	1929	MAAAVDSAMEVVPALAEAAPEVAGL SCLVNLPGVELEYILCCGSLTAADIGRVS STCRRLRELQSSGK VWKEQFRVRWPSL MKHYSPTDYVNWLEEYKVRQKAGLEA RKIVASFSCRFFSEHVPCNGFSDIENLEGP EIFFEDELVCILNMEGRKALTWKYYAKK ILYYLRQQKILNNLKAFLQPPDDYESYL EGAVYIDQYCNPLSDISLKDIAQAQIDSIVE LVCKTLRGINRRHPSLTFIAGESSMIMEIE LQSQVLDAMNYVLYDQLKFKGNRMDY YNALNLYMHQVLIIRRTGIPISMSLLYLT ARQLGVPLEPVNFP SHFLRW CQGAEGA TLADIFDYIYIDAFGKGKQLTGKECEYLIG QHVTAALYGVVNVKKVLQRMVGNLL SLGKREGIDQSYQLLRDSDLYLAMYP DQVQLLLLQARVYFHLGWPEKSFC LV LKVLDILQHIQTLDPGQHGAIVGYLIVQ HTLEHIL/ERKKEEVGVEVKLRSDEKVR DVCYSNGLHYGRHKRYGLN*LC*FYGW GPHLAWMGHELD SRNMNVHSLPHGH QPFYNVLVEDGSCRYAAQENLEYNAEP QEI SHPDVGRVYSQRFTARTHYIPNAEL EIRYPEDLEFVYETVQWNYKCKRKENIE

5087	13138	A	5953	3	364	FFSPETESHCIAQAGVQWQMLGSLQSP PFSCSLPSSYDYRHAPLHRANFLFLR DGVSACWPATAPGLLLIFFGRAPWLMV IPAPREAEAGGSLEARSSRPASLFQVSFFS PFFHMF
5088	13139	A	5954	2	114	FFFFGRDK/SLTMLPRLVSNCWAQGLPS WPPEVLRQA
5089	13140	A	5955	3	139	FFFFFETETHTVARAGVQWCHLASLQPL PAGSSHSPAAAASHVAS
5090	13141	A	5956	274	363	
5091	13142	A	5957	7	1047	
5092	13143	A	5958	7	960	
5093	13144	A	5959	2973	3400	GIIFMCPDMYTSTKTLKACLFALFFFIYP IYFFLVGIMEEYIKMCNIPQVGIFSKYLP *SLSV*FFETESCFVTQAGVLWCYLSL QPPPPGFKRFSCLSLSSWDYRHLPPCPA NFC/IFSRDGVSPCWPG*SQTPDLR
5094	13145	A	596	1	685	EIKYHSLPRLECRGEISAH*NLCLPGSSDS PATAS*VAGITGMRHYAQLIFLFLVET*F HHVGQGWSRTPDSNDPPASASQAGDY RRD
5095	13146	A	5960	6459	7074	LEARAGSYRDLPGSHYLLAFFFFFRRS LTLFSQAGVK/WCDLGSSQPPSPGFKQF SCLSLSSWDYRHAPPYRG*SFFFFFFFVF LVETGVSPCWARL/VLNARPQVIHPPRAS QSA GTTAVSHHAQPLCLFIYLFYFY/CIF LRLSFALGPQARVQWHNLSSLQPPPPGF KQFSCLSLPSSWDYRWPPHPANFVLL RYLR
5096	13147	A	5961	1	361	VCYPDRDCGESLVAASYRQVPVHOCGW FHPLKPA/SHPDTVECVFRKTPKIPQKHS GSPR/PPSPSYRGRFLFRFHPQHGAGGP SPPLGRKHRPSHTGSAALRACPPPGAA GLHSWGQL
5097	13148	B	5962	27	288	MRKVHVSTVTPNYAGGEPKRFRAYTR QQVLELEKEFHYNRYLTRRRRVEIAHAL CLSERQIKIWFQNRMRKWKKDHLKLPNT KIRSGX*
5098	13149	A	5963	1	825	MSSFLNSNYVDPKFPCEEYSQSDYLP DHSPGYAGGQRESSFQPEAGFGRRAA CTVQRYAACRDGPPPPPPPPPPPPGL SPRAPAPPAGALLPEPGQRCEAVSSSP PPCAQNPLHPSPHSACKEPVVPWMR KVHVSTGRYSLSEVGSWGGVEVEEEK EEESNPNYAGGEPKRSRTAYTRQQVLEL EKEFHYNRYLTRRRRVEIAHALCLSERQI KIWFQNRMRKWKKDHLKLPNTKIHSGG AAGSAGPPGRPNGGPRAL
5099	13150	A	5964	656	1164	
5100	13151	A	5965	1	4033	MWRRKHPRTSGGTRGVLSGNGRVEYGS GRGHLGTFEGRWRKLPKMPEAVGTDPS TSRKMAELEEVTLDGKPLQALRVTDLK AALEQRGLAKSGQKSALVKRLKGALML ENLQKHSTPHAAFQNSQIGEEMSONSFI KQYLEKQQELLRQRLEREAREAAELEEA SAESEDEMIHPEGVASLLPPDFQSSLERP ELELSRHSRKSSEEEKGDSDEKPRK GERRSSRVQARA AKLSEGSQPAEEEEED QETP
5101	13152	A	5966	3	5979	KSSSISEEKGDSDEKPRKGERRSSRVQ ARAAKLSEGSQPAEEEEEDQETPSRNLV RADRNKLTETEEEEEEEEEDDEEEEGD DEGQKSREAPILKEFKEEGEIPRVKPEE MMDERPKTRSQEQEVLERGGRFTRSQEE ARKSHLARQQQEKEMKTTSPLLEEEREI KSSQGLKEKSKSPSPRLTEDRKKASLV ALPEQTASEETPPPLLTKEASSPPHPQL HSEEEIEPMEGPAPA VLIQLSPNTDA

5102	13153	A	5967	16	208	LLPYSTNPPASASRLAVIAGVHHHTQLAF FLVETGSHCVTQSGKLFPASSNPPTGLT MLGLQV
5103	13154	A	5968	1	932	MKFLLDILLPLLVCSLESFVKLFIPKR RKSVTGEIVLITGAGHGIGRLTAYEFAKL KSKLVLDINKHGLEETAACKCKGLGAK VHTFVVDSCNREDIYSSAKKVKAIGDV SILVNNAGVVYTSDLFATQDPQIEKTFE VNVLAHFWTTKAFLPAMTKNNHGHIVT VASAAGHVSVFLLAYCSSKFAAVGFHK TLTDELAALQITGVISLCLCPNFVNTGFI KNPSTSLGPTSSCSRVPKLVPEEVVNR MHGILTEQKMIFIPSSIAFLTTLERILPERF LAVLKRKISVKFEAVIGYKMKPH
5104	13155	A	5969	1	1202	IHTGENPYECHECGKAFSRKYQLISHQRT HAGEKPYECTDCGKAFLKSQLIHHQRT HTGEKPFECSECQKAFNTKSNLIVHQRT HTGEKPYSCNECGKAFTFKSQLIVHKGV HTGVKPYGCSQCAKTFSLKSQLIVHQRS HTGVKPYGCECGKAFRSKSYLIHMRRT HTGEKPHCECGKSFSFNSQLIVHQRIH TGENPYECSECCKAFNRKDQLISHQRT AGEKPYGCECGKAFSSKSYLIHMRTHS GEKPYECNECGKAFIWKSLIVHERTHA GVNPYKCSQCEKSFSGEITPSLLHORMH TTEKPYECSECCKAFIRNSQLIVHQRT GEKPYGCECGKTFQSILSAHQRTHT GEKPCCKTECGKAFCKWSQLIMHQRT VDDKH
5105	13156	A	597	3	198	GIPGSSFCGLCGDVPKPV*RADGSC*DG VAPRLLRPRGFRGRCGPVLDLAGQRG AESGCRG
5106	13157	A	5970	153	571	LLVFYLPPTSLKGGRLQDMSLLCQLYS LYESIQEYKACQAASSPNWTYALENGF FDEEEYFPEQNSLHRRDRGPRLSLP VAPPSPAATGFWSPSRGSWEGCDCWEAL PTGHAIVICCFCKKAPPLWTVLGHGRG
5107	13158	B	5971	223	347	XNYIRVFGGGTKLTVLGQPKAAPSVTLF PPSSEELQANKATL*
5108	13159	A	5972	2	283	LHSRLDGAACLPGHCHGSRVEVTYETH QCGLVGLKLLRGGREQSDRGGSGLT* DQGLGPPAEQRTTQAVIPCCAVIMSLRL EPTDGGGG
5109	13160	A	5973	3	231	RRQAQIAAGRVLVVALFGGCGGLHSRL DGAACLPGHCHGSRVEVTYETHQCGL VGLKLLRGGREQSDRGGSGLT
5110	13161	A	5974	2	385	APFMRDPAAVASVGF/PLLGRQAQVAAG RILVVALFGGFGGLHSHLDGAACLPGH CHGSRVEVTYETHQCGLVGLKLLRGGW EQSDRGGSGLTDEGQVGAASEDSIISWP KHAVIVSLILRLEPGDE
5111	13162	A	5975	3	539	RRQAQITAGRVLVVALFGGCGGLHSRL DGAACLPGHCHGSRVEVTYETHQCGLV GLKLLRGGREQSDRGGSGLT* DQGLGSAEHLPLTTTIPHLTVIVGLIPGLDPGDGQ GGRVPRAGAENRSGIPAGRSAS**MTNT GARPGFCWYHCTLLSPIFSPQVILAVFP GATDTEGG
5112	13163	A	5976	1	351	RGGWEQSDRGGSGLTDEGQLGASSEH RTMQAVIPCCTVIISLILRLESTDGQGG* GARLGARESVD*GPLIITIDEEFGGPSWD LLVPVYNINSDVGVASRTDGDPLPGGP RR
5113	13164	B	5977	78	448	XQRVTISCTGSSSTIGAGYDVHWWYQQLP GTAPKLLIYGNSNRPSGVDRFSGSKSGT SASLAITGLQAEDEADYYCQSYDSSLG YWVFGGGTKLTVLGQPKAAPSVTLFPPS SEELQANKATL*

5114	13165	A	5978	1	393	RVLVVALFGGCGGLHSRLDGAACLPCH CHGSRVEVYETHQCGLVGLKLLRGGR EQNDRGGSGLT*DGQLGPSAEHPSGTT TSSI*TAIISLGLSLEPINCQGGRGTLGSI EIYNKPLRADYRPHKS
5115	13166	A	5979	3	389	LPGGPGTMVAFGGGLPTVQGRVQALAP VLVGACLEGCGGLHSRLDGAACLPCHC HGSRVETVYETHQCGLVGLKLLRGGR QSDRGGSGLGLDLGRSAWSLRRIPHDKDH WCLLIDSNSQPRLLPGRH
5116	13167	B	598	188	246	MAWLPGSCARVAFPAAGAAAR*
5117	13168	A	5980	1	908	AGHRGRRAFRGKGQGGQGRSRLGAGFSG WDKRWWVKGVSVRAEIEGVTGVPARD NSIQAGGREVGGYALRRRGRNERAEG VFSQDQTSPIRASFTRRHPRLCASPSG HWVPGFPHPTLRTQGRPPMCEIRKEERE QDFSLTMRIFIEKGWMTWDGGRDPSPG NLQLQAPVGGVVRVGGKAFRCRGHCLLH GAPFMRDPAAVASVGLPLLGRQAQVAA GRILVVALFGGFGGLQSHLDRAAICLP VCTGPRVKIHFKNHVGVLVGLKLLRGGW EQSDRGGSGLGLTEDGQLGASSESTQ
5118	13169	C	5981	60	392	
5119	13170	C	5982	176	385	
5120	13171	A	5983	1876	2540	FLQLGSWLGRGSCQVSRGPGQPRSDNLL VEPKDLKGNLTHFTLGGFHLLYMMIWI HPPINLCSGSNFFLFFFSLSRLGLALL PQAGVEWRDLGLLQPLPRLQSCPS GSSWDRRFMPWPANFCM/FL*RWGLT VLPRLVSNWAQ/CDPPVSASQSAGITIV SHHVQLEGSTSFTFCKHICFTPPFSPSLF ISHFYIDLLFYNKTLPLPKKKKK
5121	13172	A	5984	1	393	
5122	13173	A	5985	1	1427	MRERFRNLDEEVEKYRAVYNKLRYEHT FLKSEFEHQKEEYARILDEGKIKYESEA RLEEDKEELRNQVLNVDLTKDSKRVEQL AREKVYLCQKLKGLEAEVAELKAEN SEAQVENAQRIQVRQLAEMQATVRSLE AEKQSANLRAERLEK/DSLQSSSEQNTFL INKLHKAEREINTLSSKVKELKHSNKLEI TDIKLETARAKSELDRENRNKHSELDVYL HLDNEILKAAVEHHKVLLVKKDRELIRK VQAAKEEGYQKLVLQDEKLELENRLA DLEKMKVEHDVWRQSEKDQYEEKLRAS QMAEEITRKELQSVRLKLQQQIVTIENAE KEKNENSDLKQISSLQIVTSLAQSEND LLNSNQMLKEMVERLKQECRNFRSQAE KAQLEAEKTLEEKQIQWLEEKHKLHERI TDREEKYNQAKEKLQRAAIAQKKRSL HENKLKRLQEKVEVLEAKKEELETENQ VLK

5123	13174	A	5986	2	1831	NYKTLIIICALFTLVTVLLWNCSSDKAI QFPRSSSGFRVDGFEKRAAASESNMYM NHVAKQQSEEAFFPQEQKAPPVVGGFN SNVGSKVLGLKYEEIDCLINDEHTIKGRR EGNEVFLPFTWVEKYFDVYGKVVQYDG YDRFEFSHSYSKVYAQRAPYHPDGVM SFEGYNVEVRDRVKCISGVEGVPLSTQW GPQGYFYPIQIAQYGLSHYSKNLTEKPPH IEVYETAEDRDKNKPNDWTVPKGCFMA NVADKSRFTNVKQFIAPETSEGVSLQLG NTKDFIISFDLKFLTNGSVSVVLETTEKN QLFTIHVVSNAQLIAFKERDIYYGIGPRTS WSTVTRDLVTDLRKGVGLSNTKAVKPT KIMPKKVVRLLAKGKGLDNITISTTAHM AAFFAASDWLVRNQDEKGGWPIMVTRK LGEFGKSLEPGWYSAMAQQAISTLVR AYLLTKDHIFLNSALRATAPYKFLSEQH GVKAVFMNKHDWYEEYPTTPSSSVLNG FMYSLIGLYDLKETAGEKLGKEARSLYE RGMESLKAMLPLYDTGSRITYDLRHFM LGIAPNLARWDYHTTHINQLQLLSTIDES PIFKEFVKRWKSYLKGSRAKHN
5124	13175	A	5987	34	332	LLRQGLALLPRLECSGTISAYCNLCLPGS NHPPVSVSQVAGTTGVHHAQLIFVFW VETGFCHVAQYGLEFLGSSNPPALTSPPSA GITGVSHCIWAQVF
5125	13176	A	5988	3	395	PAGGPAAGRAAARAGAMAKLLSCVLGP RLYKIYRERDSEAPASVPETPTAVTAPH SSS/WGYLSLSKVVPFESHYAGTLLLLLAG VACLRISGRWTNPQYRQFITILEATHRNQ SSENKRQLANYNFDFRSW
5126	13177	A	5989	3	414	
5127	13178	A	599	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFDFSFGNLSSASAIMGN PKVKAHGKKVLTSLGDAIKHLDDLKGTG AQLSELHCDKLHVDPENFKLLGNVLVTV LAIHFGKEFTPEVQASWQKMTGVASA LSSRYH
5128	13179	A	5990	3	784	LIALRTCTESPGTTHASADAWAEKLLSC VLCPRLYKIYRERDSEGAPISETETPTAD TAPHSSSWDTYYQPRALEKHADSILALA SIFWPISYYSCTFAYFYLYRKGYLSLSKV VPFESHYAGTLLLLLAGVACLRIGIGRWT NPQYRQFITILEATHREPSLQKTKRQLAN YNFDFRSWPVDHFHWEPPSSRKESRGGPS RRGVALLRPEPLHRGTADTLNRVKKLP CQITSYLVAHTLWRRMLYPGSVYLLQK ALMPVL
5129	13180	A	5991	461	660	
5130	13181	A	5992	1	1774	MSSSEEVSWISWFCGLRGNEFFCEVDED YIQDKFNLTGLNEQVPHYRQALDMILD EPGIGRWTPNPQYRQFITILEATHRNQSSE NKRQLVYYYFFDFRSWPVDFHWEPPSSR KESRGGPSRRGVALLRPEPLHRGTADTL LNRVKKLPCQITSYLVAHTLGRMLYPG SVYLLQKALMPVLVQGAARLVEKCNV RRAKLALACDGNEIDTMFVDRRGTAEPQ GQKLVICCEGNAGFYEVGCVSTPLEAGY SVLGWNHPGFAGSTGVPPQNEANAMD VVDQFAIHRLLFFHPQDIIYALAIGGFTAT WAAMSPDVSAMILDASFDDLVPALK VMPDSWRGLVTRTVRQHLNINNAEQLC RYQGPVLLIRKTQDGNLTPTVPKDCSN RANCLLVKALQHRYPGVMAEEGLLVA RQWLEASSQLEESIYSRWEEVEDWCLA SVLRISYQAEHGADFPWASVGEDMSAD GRRQAGPLFPGLGKASCHNFGGPTHCT PLPSPQNFPRCPWHPLGTQLGLIMEEWG ERRHEERPFLFVILLCFMAVYKFCGKV

						GGPFLLTTVPLARFSPFMWLYLTFSNIH PALHEMG
5131	13182	A	5993	3	180	
5132	13183	A	5994	1	1015	MIAPLGLGV LARDQYRQAALADWDLKL DGGRQSTGA VSLKEIIGLEGVELGADGK TVSYTQFLPTNAFGARRNTIDSTSSFSQ FRNLSHRSLSIGRASGTQGS LDTGSDLGD FMDYDPNLLDDPQWPCGKHKRVLFPSY MLCTQLPCSQAFCSTVHSSDLSLHERN EHPCKKHNCLLQEGHSPLQAPGFRRALV VAPMQVFPLLMALGVTTVIDYVKPSDL KKDMNKFFKEKFPHIKLTLNKIRTLKRE MRKLAQEDCALEEPTVPMAFVYFEKLA LKGLNKQNRKLCAGACVLVSSQYKFG SDLKKHEVKHLIDKLAEEKFRLNRARTGF AF
5133	13184	A	5995	48	327	EELEALRR\QRLAELQAKHGDPGDA\AQ QEAHREAEMRNSILAQVLDQSARARIV SEQGLIEILKKVSQQTEKTTTVKFNRKV MDSDEDDDY
5134	13185	A	5996	52	281	VSKLKHLKPEKTKAVENYLIQMARYG QLSEKVS LDSLEELYCYLLYQNMASKGQ LHLHWITEFLTLRRNCWRE
5135	13186	A	5997	1	280	GNPLFLELHWNPSLRQACDRIYRVGQ QK\DVSI PRFVCGGTVEESILHFQEKIDL AKQFLSGSGESVTKLTLSDLRVLIGIYPP VDRVSE
5136	13187	A	5998	36	512	LFVLLQVNVSGNELCLMTSHLESTRGHA AERMNQLKMVLKKMQEAPESATVIFAG DTNLRDREVTRCGGLPNNIVDVWEFLG KPKHCQYTWD TQT ELLILGITAAACKLR FDRIFFR\AAAEEGHIIPRSLDLLGLEKLD CGRFPSDHWGLLCNLADIIL
5137	13188	C	5999	205	519	MGKEGVHGGLINKKCYEMAFPLQAFPV LTSSVPSPLPTALHPFXXHTHTNHIF WAITPYPLLLPKPHGLGARAGWDTSPY PYPSRVWLENFCFLGFFSE*
5138	13189	A	6	144	398	
5139	13190	A	60	713	811	IPGRPWRL*A*PVTLRLQTQATCGG*MV RASL
5140	13191	A	600	3	496	HSLFGTSEVINKLRSPDAMGHFTEEDKG TITSLWGK\VNVEDAGGETLGRLLVYP WTQRRFFDSFGNLSSASAIMGNPKVKAH GKKVLTSLGDAIKHLG*SQGAPFAQA*S ELHCDKAALLDPEELSSFLGEMLLGDPF LGNPIFGQKNFTPEGCKAFLGQKDG

5141	13192	A	6000	3	939	FLKLHLQSSVSGLASGGGREWGAGSGV RGLLHSERSRGPDSACPELSASPRPASR GSSSPVRGRQQRPRAAPVAAPWPCWN AYIDNLMADGTCVTGAIVRYQDSEPPV WAAVPGKTFVNITPA*GGLSLVGKDR SSFLR*MGLTLWGGOKCSVIRGLTCLQD GEF/SAMDRLRYQEPPGGAPTFCSLFTKT DKDG*VLADGAKEGVHGGLTNNKKCYE MASHLSGFPSTDHRLSLPLHRSPTAFAPL SSPYTHHPFLFFGPLPHTPYCCQNHMGL GGQGLMGQTPSPTHIPSRVWYGKLLFFG VFFFSE
5142	13193	A	6001	172	407	
5143	13194	A	6002	1	185	ESSCLSLPSSWDHRHGRPWADFSVFF/C YRNSLTMLPRLGLNSWPQAILPPWPKV LGLQA
5144	13195	A	6003	1	618	
5145	13196	A	6004	1	478	HPVRFFVHRGPH/VDFSLEVVSQWYELV VFTASMEIYGSAVADKLDNSRSILKRRY YRQHCTLELGSYIKDLSVVHSDLSSIVIL DNSPGAYRSHPDNAIPIKSWFSDPSDTA LLNLLPMLDALRFTADVRSVLSRNLHQ HRPLTGTGGTLGEPNQCL
5146	13197	A	6005	2	833	WNSAELGRGGPGAGGAGVIGMMRTQC LLGLRTFVAFAAKLWSFFIYLLRQIRTV IQYQTVRYDILPLSPVSRNRLAQVKRKL VLDLDETLIHSHDGVLRTVRPGTPPDF ILKVVIDKHPVRFFVHKRPHVDFLEVV SQWYELVVFTASMEIYGSAVGRNLWD NSRSIL*GGRYAYRQPAPELGSYIKGPL CWFHSDLSIVILDNSPGAYRSHPGYGG RDNAIPIKSWVSVTPSDTALLNLLPMLD ALRFTADVRSVLSRNLHQHRLW
5147	13198	A	6006	2	258	EAESRSVPRLECSGPILAGCMLHLPSC HFPASASQVAGTTARHHTQLIFAVLVE NGLC*PGWSRSPDLVIRLPWPPKVLGLQ A
5148	13199	A	6007	60	429	IRGOYMWGPVSSSLFCSMGYLVFGFFSFI FFFCDEVLLSTRLECNGTISGHCNLCPL GSSHSPVSASRVAGTTGARNKARLIFYF FLVEMGFHHISQDGLDLLNLVIRPPWPP KVLGLQA
5149	13200	A	6008	1	1047	SCGWTFTSMKLLRHRKHDDRRFTC PVEGCGKSFTRAEHLKGHSITHLCTKPFE CPVERCCARVSARSSLYIHSKKHVQDVG APKSRCPVSTCNRLFTSKHSMKAHMVR QHSRRQDLLPQLEAPSSLTPSSELSSPGQ RELTNMDLAALFSDTPANASGSAGGSDE ALNSGILTIDVTSVSSSLGGNLPANSSSL GPMEPLVLVAHSDIPPSLDSPLVLGTAA TVLQQGSFSVDDVQTVSAGALGCLVAL PMKNLSDDPLALTSNSNLAHHITPTSSS TPRENASVPELLAPIKVEPDSPSRPGAVG QQEGSHGLPQSTLPSPAEQHAQDTLS AGTGNFYLV
5150	13201	A	6009	66	423	MEVACRQSTSWQPMDLASSSDFRPRMQ NPTTNRHSQANSCLQGDGSPRRMSASKR YFEKTNAICRPSSFTKHSRESSGSPGVRS CTGTRF*NVTKQPYFTSSKHKRTGKVKV RISVV
5151	13202	A	601	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFDSFGNLSSASAIMGN PKVKAHGKVLTSLGDAIKHLDLKGTF AQLSELHCDKLHVDPENFKLLGNVLVTV LAJHFGKEFTPEVQASWQKMTGVASA LSSRYH



5152	13203	A	6010	44	283	FSCLILHDAFPCLILHDAFPCSLCSVTGSL VLSRVPLRGTHQKSAIATSTKIALSNM/KI LKHHTDAYFKKQQLFFDVSKK
5153	13204	C	6011	107	118	MAV*
5154	13205	A	6012	197	683	SLEVPLGFLLYLSFILLYSCFPLSNRVLLC HRDPFLSFLDLFLPAFSPDYVQFLFL*CA PQFSIRH*TL*MLHCKCLDFFFFFFFETR FHSPSLRLECSGMISAYCSVTSWTQVRG TTGTCHHAWLVFIFSVETGFHHVAQPD QLLPAPRPVKVLRLOV
5155	13206	A	6013	1	415	LWREGPKWN/AARLNESTTFVSVSRPTIA CGMVGTIVRFYIKSPHLFKYAADPRDK HWAIAEQHHMRATGGKMAVLLIEDIP GPCGPVMITEDALDLKLEGIEPLSLPSW MVEKMRKYMETLRTENEHRAVEAPQ T
5156	13207	A	6014	1	1256	
5157	13208	A	6015	2	1594	GRPARGAPQRGQTPEAGADKRATAGLC GGGGGRRRRHRASGRRRAGRGEPAGLKS QQQRAVPKRAVARGGRQVYSAIALLEP AGSEIADDLSILYSNRAACYLKEGNCSG CIQDCNRAELHPFSMKPLLRAMAYET LEQYGKAYVDYKTVLQIDCGLQLANDS VNRLSRILMELDGNWREKLSLIPAVPAS VPLQAWHPAKEMISKQAGDSSSHRQQGI TDEKTFKALKEEGNQCVDKNYKDALS KYSECLKINNKECAIYTNRALCYLKLCO FEEAKQDCDQALQADGNVKAFYRRAL AHKGLKNYQKSLIDLNKVILLDPSIEAK MELEEVTRLNLKDKTAPFNKEKERRKI EIQEVNEGKEEPGRPAGVSTGCLASEK GGKSSRSPEDPEKLPIAKPNNAVEFGQII NALSTRKDKEACAHLLAITAPKDLPMFL SNKLEGDTFLLLIQSLKNNLIEKDPSLVY QHLLYLSKAERFKMMLTLISKGQKELIE QLFEDLSDTPNNHFTLEDIQAALKROYEL
5158	13209	A	6016	1	449	MAEGEITTFALTEKFNLPNGYKPKLL YCSNGGHFLRILPDGTVDGTRDRSDQHI QLQLSAESVGEVYIKSTETGQYLA MDTDGLLYGSQTPNEECLFLERLEENHYNTY ISKKHAEKNWVGLK\GPRTHYGQKAIL FLPLPVSSD
5159	13210	A	6017	1	153	
5160	13211	A	6018	1	528	
5161	13212	A	6019	223	513	QRGPLPEDPSGWHSGWDKGQERPAHRH QMRNVCSWKGWRRITITPIYPRSMQRR GLLASRRMGAANAVLGLTMAKQSC*A MAEGEITTFALTEKFNLPNGYKPKLL YCSNGGHFLRILPDGTVDGTRDRSDQH QTPNEECLFLERLEENHYNTYISKKHAE KNWVGLKKNKNGSCKRGPRTHYGQKAIL FLPLPVSYNSRDLFWEG
5162	13213	A	602	38	538	APSPDAMGHFTEEDKATITSLWGKVN VENDAGGETLGRLLVVYPWTQRFDSFGN LSSASAINMGNPKVKAHGKVLTSLGDA IKHLDDLKGTFAQADVNCTCDKALHVD PENFKLLGNVLVTVLGNPIFGKEFTPEG CKASWAERWVTWSWPVPCSSRIPLKPL CP
5163	13214	A	6020	1	812	MAEGEITTFALTEKFNLPNGYKPKLL YCSNGGHFLRILPDGTVDGTRDRSDQHS GLNYSWTMHQRLQALRTNDHFAGAHA VPSDAQVMGMDAGVYTSSKTIAAFVIVL LYHSQVHLSVSLIMQKPQVQGPWLALS QQLQEDVGLENWNEVTLESWTSQLHK PLSLVQLQLSAESVGEVYIKSTETGQYL AMDTDGLLYGSQTPNEECLFLGLEE NHYNTYISKKHAEKNWVGLKKNKNGSC

						KRGPRTHYGQKAILFLPLPVSSD
5164	13215	A	6021	1	1471	MESMFSSPAEALQRETGVPGLLTPLPD LDGVYELERVAGFVRDLGCERVALQFP DQLLGDAVAVAAARLEETGSKMFILODT AYGSCCVDLGAEQAGAQUALIHFGPAC LSPPARPLPVAFVLSSTFCGLGTLQDLW GPKPRQSACGAA\GEPACAHAEALAT LLRPRYDLLVSSPAFPQVGSLSPEPMP LERFGRRFPLAPGRRLEEYGAIFYVGGSK ASPDPLDPLSRLLLGWAPGQPFSSCCP DTGKTQDEGARAGGLRARRRYLVERAR DARVVGLLAGTLGVAQHREALAHLRNL TQAAGKRSYVLALGRPTAKLANFPEVD VFVLLACPLGALAP\QLSGRLFQILAPCE LEAACNPAWPPGLAPHLTHYADLLPGS PFHVALPPPESELWETPDVSLITGDLRPPP AWKSSNDHGSALTPRPQLELAESSPAA SFLSSRSWQGLEPRLGQTPVTEAVSGRR GIAIAYEDEGSG
5165	13216	A	6022	1	343	PTRPPTRPRTHGQECPLLDPVDFLLFRTR AGDPLRRVSSSVFNKNLIFFSIKPQPPCL AFHPRDPPGGSKRPLFWDPFKGPPILAPI LSLTQIFFRWSCFFPKSRIAQGWALS
5166	13217	A	6023	3	919	
5167	13218	A	6024	3	275	GLRLGKIGRD\CLIGYGASMLLLERLMIS SDAFEVDVCGQCGLLGYSGWCHYCKSS CHVSSLPPYACKLLFQELQSMNIIPRLK LSKYNE
5168	13219	A	6025	455	679	
5169	13220	A	6026	1	2064	MTASIRRYHTCATDGEPDSSVLVGGDGD LTLVAALGLDLGLPFMLLPMEWMR VAITYAEHRRSLTVDSGDIRQAARLLP/ GPEHCFSSFR\RLDARAATEKFNQDLGFR MLNCGRTDLINQAIEALGPDGVNTMDD QGMTPLMYACAAGDEAMVQMLIDAGA NLDIQVPSNSPRHPSIHPDSRHWTSLTFA VLHGHISVVQLLLDAGAHVEGSAVNGG EDSYAETPLQLASAAGNYELVSLLSRG ADPLLSMLEAHGMGSSLHEDMNCFSHS AAHGHRGIWGLVTLGPLACLEEDHETP SPRVQSSPSGQEGTGGQLRNVLRKLLT QPQQA\KADVLSLEILAEGVEESDASSQ GSGSEGPVRLSRTRTKALQEAMYYSAEH GYVDITMELRALGVPWKLHIWIESLRTS FSQSRYSVVQSLLRDFSSIREEEYNEELV TEGLQLMFDILKTSKNDSVIQQLATIFTH CYGSSPIPSIPEIRKTLPARLDPHFLNKE MSDVITLVEGKLFYAHKVLLVTASNRF KTLMTNKSEQDGDSSKTIIESDMKYHIFQ MMMQYLYYGGTESMEIPTTDILELLSAA SLFQDALQRHCEILCSQTLMESAVNT YKYAKIHNAPELALFCEGFFLKHKMKALL EQ\MPSGSSSTAAAKCRAWIHCRTRC PWQSACTLSTSPPGSAA
5170	13221	A	6027	2	144	LFYEMESCIAQAGVQWLSLGLLQAPPPV GSCHSPASASCELMFFKI
5171	13222	A	6028	163	465	
5172	13223	A	6029	1	1614	
5173	13224	C	603	83	349	
5174	13225	A	6030	163	1917	

5175	13226	A	6031	133	424	PFLCDLFHLVIFISDSLFLMVIDFVNGTFM ISFINRILLGQNDRDGIVFSTDDYFHHQDG YRYNVNQLGDAHDWNQNRGLFWAKCP RIEYLARSQKT
5176	13227	A	6032	3	270	FKMESGSVAKLECRGTISAHCNLRPPGS SDPPASASQIAATTGVHHNRLIPAFLVE TGFCHVDQAGLELLT/LVIHPPRPPKVLG LQA
5177	13228	A	6033	407	720	RHNSSNFFFFFFFETESRSIAQACMQWC YLSSLQSLPPGFKRFSCLSLPSSWDDRC PPCLANFVFLVETGFGCHVGQAGLELLIS GDPPASASQSTGITGMI
5178	13229	A	6034	1	135	KEAPGLKKENN\CFVCAICQINMEGKTL SKKDRPICKSHAFFHV
5179	13230	C	6035	96	410	
5180	13231	C	6036	108	422	
5181	13232	A	6037	2	195	CLPRFMPILPASTSQVAGNTGAHHHARLI FVFLVEVGFHHVVGQAGLL/ISLPQMIHPP RPPKVLGL
5182	13233	A	6038	251	377	LGLAQTILDNPLLGEGLECAPTGPLEPP LAYTVNLILKSKARTEPQKQYFSSHAK NGG*REGVAA*APTGPLEPLAYTVNLIL KSKA
5183	13234	A	6039	175	393	ARPTFRLYLSLPVSQAGQQREAER/HPRL VPTGPTHREPSVRYDNLNRHIVDLSVAP RGEESRRQGLVVHL
5184	13235	A	604	295	448	NQTCVCWHACAYVSSNRVPWSIGSAIRS VCCYPLPPALCAPCL*ISTALD
5185	13236	A	6040	1	537	
5186	13237	A	6041	1	1555	MPYSLNLAIRDTFVNASRTLYSSSPRVLS NNSDANLELINTWVAKNTNNKISRLDS LPSDTRLVLLNAIYLSAKWKTTFDPKKT RMEPFHFKNSVIKVPMMNSKKYPVAHFI DQTLKAKLSRGDSLKEPTSAESSRHP RSEPSLEPESFRSPTFGKSFHFDPLSSGSR SSSLKSAQGTGFELGQLQSIRSEGTTS YKSLANQTRNGSLSYDSLTPSDSPDFES VQAGPEPDPLGYTSFPLSARLAQOREA ERHPRLVPTGPTHREPSVRYDNLNRHIV ASLQEREKLLRQSPPLPGREEEPGLDGS IQSTPGSGHAPRTSSSSDDSKRSPLGKTP LGRPAVPRFGKPDGLRGRGVGFPEPGPT APYLGRSMSYSSQIAQPGVSETEEVDLRP LLTPKDEVQLKTTYKSNGQPKSLGSAS PGPGQPPLSSPTRGGVKKVSGVGGTTYEI SEFDHHCWPVNNCIGRRNYRYFFLFLS LTAHIMGVFGFLLYVLYHIEELSGVRT AV
5187	13238	A	6042	1	627	TRREAERHPRLVPTGPTHREPSVRYDN LSRHIVASLQEREKLLRQSPPLPGREEEP GLGDSGIQSTPGSGHAPRTSSSSDDSKRS PLGKTPLGRPAVPRFGKPDGLRGRGVG SPEPGPTAPYLGRSMSYSSQKAQPGVSE TEEVALQPLLPKDEVQLKTTYKSNGQ PKSLGSASPGPGQPPLSSPTRGGVKKVSG VGGTTYEISV

5188	13239	A	6043	3	2265	PTWLERGGGEPAARPQTPOPTAPESRGP SGASALRCRGPTARSLPAASMLGAPDES SVRVAVRIRPQLAKEKIEGCHICTSVTPG EPQVFLGKDKAFTFDYVFDIDSQEQIYI QCIEKIEGCFEGYNATVFAYGQTGAGK TYTMGTGFDVNIVEEELGIISRAVKHLF KISIEEKKHIAIKNGLPAPDFKVNAQFLEL YNEEVLDLFDTRDIDAKSKSNIRIHED STGGNLYCGRLPTRTVNTESEMMQCLK LGALSRTTASTQMNVSQSSRSHAFTIHVC QTRVCPQIDADNATDNKIISESAQMNEFE TLTAKFHFVDLAGSERLKRGTATGERAK EGISINCGLLALGNVISALGDKSKRATHV PYRDSKLTRLLQDSLGGNSQTIMIACVSP SDRDFMETLNTLKYANRARNIKNKVMV NQVAELVSKSMHFVVKSHDFRWSSWST KPGKRIIDEEGVESINDMFHENAMLQTE NNNLRVRJKAMQETVDALRSRITQLVSD QANHVLARAGEGNEEISNMHSYIKEIED LRAKLLESEAVNENLRKNLTRATARAP YFSGSSTFSPITLSSDKETIEIDLAKKADLE KLKRKEKRKKKSVAGKEDNTDQDEKK EEKGVSERENNELEVEESQEVSDHEDEE EEEEEEEDDIDGGESSDESSESDEKANY QADLANITCEIAIKRKLIDELENSQKRLQ TLKKQYEEKLMMMLQHKIRDTQLERDQV LQNLCSVESYSEKKKK
5189	13240	A	6044	2	323	EDQGLYSIRMEGARGCLAKSLAL*GAGR GFYSGERTWTLSPSGNCAPYQRRGW WSHA*AHSNLNGVWHHGGHYRSRYQD GVYWAEFRGGAYSLRKAAMLIRPLKL
5190	13241	A	6045	3	902	PFFCSTISYRLCPEGAAGQKKVLPPLV PVVPVRLVGSTRDTSRMRDPAPEPQRDQ TORQQEPMASPMPAGHPADPTKPVGPW QDCAEARQAGHEQSGVYELRVGRHVVS VWCEQQLEGGGWTVIQRRODGSVNVFT SWQHYKAGFRPDGEYWLGLEPEHHHL TSRGDHELLVLKEDWGGRGARAHYDG FSLEPESDHYRLRLGQYHGDAGDSLW HNDKPFSTVDRDRDSYSGNCALYQRRG WYHYHACAHSNNGVWHHGGHYRSRY QDGVYWAEFRGGAYSLRKAAMLWPLK L
5191	13242	A	6046	3	218	KAVSLSVTQAGVQWALISLQSPPPFRNRF SCLSLPSSWDYRQVPPRPANFCIFSRDRV SPCWPGWSPTPNLK
5192	13243	A	6047	1	297	MVVSLEYFPTHPSFPVLLCLVLCPGRLIL RDCNPPRLPFVIDFCLGLVNGMPWHSF GGKKREDNVFLHCSHSDLGYYVLLAGTA SLQDFSFFQKSPPP
5193	13244	A	6048	1	8157	
5194	13245	A	6049	1126	1355	
5195	13246	A	605	43	208	ARTLIEVIGLSHHNQKAHAMLLNAF*SSI RASP*RSYG*SSLWNQTSRFQIPAPT

5196	13247	A	6050	1	1627	MGSRCLNPPPPAHSDTTGKDSFGNIRGA ETGQGASACSVTSARVTCGAGSEPHSHR NPGISAQVGLAPSYGAARGRRRPLALQQ SPQERRHVGWNSTRGLLPASLPGTASSQ SASATASAAALPLKVTGPLARNPTPWTA AAALATRGQRPEKGLFPGPAPFSLGKRK RGRGRTWERRRRVSIETSTCFRPGCERL GAAAGANLSQLASSQRPLRERWVLYTHI MAAAGAPDGMEEPGMDTEAETVATEAP ARPVNACLEAEATAGAGAGTVAEDSGTA RGSLLQAPAPAPAQAPGDPVSQASVSNGE DSGGSADSELVDLRIWNKTKHDVKFPL DSTGSELKQKIHSTGLPPAMQKVMYKG LVPEDKTLREIKVTS GAKIMVVGSTINDV LAVNTPKDAQQDAKAEENKKEPLCRQ KQHRKVLDKGKPEDVMPVKGAQERLP TVPLSGMYNKS GKGKVRITFKLEQDQLW IGTKERTEKLPMGSIKNNVSDPIEGHED YHNDGRFQLAPTEAISYYWVYVWPTQY VDAIKDITVLGKWQYF
5197	13248	C	6051	47	298	
5198	13249	B	6052	64	362	XCVWHRRKVAVNLA KLKLF RHYYVMV ICYVYFTRIIAILLQVAVPFQWQWLYQPT GNNPYLQLPQEDEEDVQMEQVMTDSGF REGLSKVNKTASGRELL*
5199	13250	A	6053	1	342	
5200	13251	A	6054	1	485	
5201	13252	A	6055	696	3195	SGRRTPMASCRQRRCPFSSTWSCPPAS WPLASSGCPSSAGTRTASF KIHWMAL AFTKSISLLFHSVRALDRGAAGAPITSFES HPPSSLFNFLTTHLMVTVRVPNPPPPSA SHPSVRLTVRLSIHPQINYYFINSQGHPIE GLAVMYIYIAHLK GALLFITIALIGSGWA FIKYVLS DKEKKVFGVIPMQVLANVAYI IIESREEGASDYVLWKEILFLVDLICCGAI LFPVVWSIRHLHGCVWHRRRMVAVNLA KLELFRHYVMVGARLTHSGFGGITGL LHAHPSPSAAAPSRGPHPGSPARILQSSP MPARAPTVLAPRLAPLQVICYVYFTRII AILLQVAVPFQWQWLYQLLVEGSTLAFF VLTGYKFQPTGNNPYLQLPQEDEEDVQ MEQVEAHTLKLKLVKDIKSTVSNVFSEMK ENMDKELKQIMRMİYERRICVADPFEVT VMQDFFIDLRLPYSVVRNEQVEIRAVLY NYRQONQELKVRVELLHNPFCSLATTKR RHQQTVTIPPKSSLSVPYVIVPLRPACRK WKSRLSTIHSSTVSGKG VQKEDIPPAD LSDQVPDTESETRILLQGTPVAQMTEDA VDAERLKH LIVTPSGCGEQNMIGMPTTV IAVHYLDETEQWEKFGLEKRGGALELIK KGYTQQLAFRQPSSAFAFVKRAPSTWL TAYVVKVFS LAVNLIAIDSQVLCGAVKW LILEKQKPDGVFQEDAPVIHQEMIGGLR NNNEKDMALTAFLVLSLQEAKDICEEQV NIHNRYAATRQLMVAKISGKFSKMDKS KTAGLADCHSVLDVSNKGVL RDVASTS SGIVDWRGSQIQT
5202	13253	A	6056	1	516	LRQPTRPVFGVIPMQVLANVAYIIESRE EGASDYVLWKEILFLVDLICCGAILFLV WSIRHLKDASGTDGKVPVNLPLKLF RH YYVVPAPTPCAPLQVICYVYFTRIANPL QVAVPFQWQWLYQLLVEGSTLAFFVLT GYKFQPTGNNPYLAVAPGGRGGCSRWS K

5203	13254	A	6057	3	528	LSCRVQSVAPPRPRPALPVSAVPGTPT LTPALLHP/WLADCDVSDSSCSLAATLL ANHSLRELDLSNNCLGDAGILQVSVR QPGCLLEQLVYVQRAGRVPGLPREE GGGGGGHWAHASLLACVQPVQFTGLR RWRTGLQGPGETSTSLRGHLLRLFLLL AAALDDRP
5204	13255	A	6058	1	334	
5205	13256	A	6059	225	843	WTRCWSRLRASGSSCEGRRAAPPRPCA RYEGGYQRSCGSESACGRRVLGSSLRQ HQGSCRNTRAGMFCGRQYIPHPAASPR RPLGRSRNTQMGTPLSRVLLRSCRKKID/ SLKQKVTHLRGLQIPHEPELMRKEISRLN KTVGRENK*LSRSEAGAGGLQEARDAA LERVQMLEQQVSVPRAPDGTQMSAGR WWPKSWDRLG
5206	13257	C	606	892	1269	
5207	13258	A	6060	300	957	GSTKVHAETHALGCSVADSTSRTHOQL HRGAHWGEVGTWRWHTSVQSVIEKLQ EENRLKQKVTHVEDLNKQWRYNASR DEYVRGLHAQLRGLQIPHEPELMRKEIS RLNRQLEEKINDCAEVKQELAASRTARD AALERVQMLEQQILAYKDDFMSEADR ERAQSRIQEELEKVASLLHQVSWRQDSR EPDAGRIHAGSKTAKYLAADALELMVP G
5208	13259	A	6061	2	271	FFETESRSVARLECSGAISAYCTLCPLGS SDSIASASRVAGITGEHHHARLILVFLVE MGFHHVQGAGLGLLDLVHPPRPVKVLG LQA
5209	13260	A	6062	3	376	DYSLGLPVVTTGCWGHMSNAPLRWALN PSYWGKNQLCPESLALCCGLCCCKPRFL EVTSVRSADLYLSSPCLVRRCPFRGKE KPAVGMRMPDNKGWRRALSSSLSPRVP APVAASVLTVMN
5210	13261	A	6063	2	70	
5211	13262	A	6064	3	258	ADPPSPSFCFCFFFETESCSVTRLECSG AILAHCNLC/LPTCHHAWVIFVFLVETEF HHVGEDGLNLL/NFMIYLP RPVKVLGLQ A
5212	13263	A	6065	1	408	
5213	13264	A	6066	3	25	
5214	13265	A	6067	3	503	
5215	13266	A	6068	1	1740	MAAVVAATRWQQLLVLSAAGMGASG APQPPNLLLLMDDMGWDLGVYGEPS RETPNLDMAAEGLLFPNFYSANPLCSP SRAALLTGRLPINRGFYTTNAHARNAYT PQEVGGIPDSEQLPELLKKAGYVSKIV GKWHLGHRPQFHPLKHGFDEWFGSPNC HFGPYDNKARPNI PVYRDWEMVGRYYE EFPINLKTGEANLTQIYLQEALDFIKRQA RHHPPFLYWAVDATHAPVYASKPFLGTS QRGRYGDVREIDDSIGKILELLQDLHV ADNTFVFFTSDNGAALISAPEQGSNGPF LCGKQTFEGGMREPALAWWPGHVTA GQVSHQLGSIMDLFTSLALAGLTPPSDR AIDGLNLLPTLLQGRMLDRPIFYRGDTL MAATLAGQHKAHFWTWTNSWENFRQG IDFCPGQNVSGVTTHNLEDHTKLPLIFHL GWDPERFPLSFASAEYQEALSRTSVV QQHQEALVPAQPQLNVCNWAVMNWAP PGCEKLGKCLTPPESIPKKCLWVPLAPA QTQARPRISSWPCKCLEEGWLWPRSSPN PAPSQTDSTCRRRGCTISNLPRT
5216	13267	A	6069	3	2945	
5217	13268	A	607	187	363	MPLRLPIQDVY*IGGIGTALVGRVESGAV NYGLVGSSVH*AVQSVALDFRFNSWML YSQ

5218	13269	A	6070	2	3078	
5219	13270	A	6071	3	3204	AGRGRLWGGTASREPQKSAGKFPRWGA FRASRTALGPGARSQERGPGGGNAPRPP PPRLPPAAVLAAA VAAAAALPRRGAAL KGGTPPPGALAARAPREPVAAMPFRAPP APGPRPPPRAAAATDTAAGAGGAGGAG GAGGPGFRPLAPRPWRWLLLLALPAACS APPPRPVYTNHWAVQVLGGPAEADRVA AAHGYNLQGIGNLEDYYHFYHSKTFK RSTLSSRGPHFTFLRMDPQVKWLQQQEV KRRVKRQV
5220	13271	A	6072	3	3002	
5221	13272	A	6073	1	1181	MEVSRAGLSTVLEAVLCPADLTAASLDA ASPMSSSHLPVLGYPVGKSGARPGSTQ EVVLTAAAVTQEVVLTAAAVTQEVVLT AAAVTQEVVLTAAAVTQEVVLTAAAVT QEVVLTAAAVTQEVVLTAAAVTQEVVLT TAAAVTQEVVLTAAAVTQEVVLTAGA ENKPVSAPHSSSTCARTGSPGRPLHTQSP PRGHILFGKEKVCYKFKHDILKHLTQLT VDGIVSIPLVQVLRRTALTSAEHSQDR VVYLEHVVVVRTSISHPRRGDLQIYLVSPS GTKSQLLAKRLDLSNEGFTNWEFMTV HCWGEKAEGQWTLEIQDLPSQVRNPEK QG/DVFCTKCHSHQSFEEQDTSVVAW EGWGCTHGVHCEVPKNLGIRSGKHHPL KIKLV
5222	13273	A	6074	3	656	RSAFELWTQEGGLPSPSGW/VIIQSLKNL NRTDSRGRSSPLISCLATGAGTSRHLLP LDWMSTIGCPGSQASRPESLNTSGFP GFPAFHPRWWAFSGPQSHINQIPKSP CVGSLLQRAYTNTLPLFLQFLRSPTKES TYSQLHPSGSPGGGPGPRLGLTSPKAS EQPLPGFDWEGQGSRRAGADGSGRES SGTPGTAVLQRSSCGTSC
5223	13274	A	6075	3	873	AAEGLPPVRIPPFSETTANGTISFTEMVQ DMGAGLAVVPLMGLLESIAVAKAFASH NNYRIDANQELLAIGLTNMLGSLVSSYP VTGSFGRTA VNAQSGVCTPAGGLVTGV LVLLSLDYLTSLFYYPKSA LGA VIIMG RGPVSTPRSFERNALGFLKRLDLLPLCVT FLLCFWEEQD GILAGALGSLMLLHSAA RPETKGSEGPVLVLQPASGLSFPAMEAL REEILSRALVSPPRCLVLECTHVCSIDYT VVLGLGELLQDFQKQGV ALAFEG LQVP RLRVLLSR
5224	13275	A	6076	3	256	HASGMKNDLVYTGVDPETLPNRNGDGV /PTGLSPDPQFRTRKIQASLLTLEETMKQ LEEEEFRRLLKPLLANLGGNSVPHPGCT

5225	13276	A	6077	1	1966	MAEPLLRKTF SRLRGREKLPRKKSDAKE RGHPAQRPEPSPPEPEPQAEQSGAGAEG PSSPEASRSPARGAYLQSLEPSSRRWVLG GAKPAEDTSLGPGVPGTGEPAGEIWYNP IPEEDPRPPAPEPPGPQPGSAESEGAPQG AAPASPP/NSLPHQVPGPRQAPLHKDEE AAGTAAPPEPARPPGWQGAREGCPCGL RHQPLPPGQQRGGPRAGSRAWGHPEPE GRLPQRRGLTGAPSWAPITHLLPALRGG SRSPGTGRTLGPPQAPVRSRGAAASA GGHPQGPLLPTASGWGGQGNRATARG AGLPAAGPHLPPGAGGRQAPARPGACV GPWREKAPALCPGHRAAAHGLPRCQA QQLAVRLEPQGLLYAKLTLSEQQEAPAT AEPRVFGPLPLLLVERERPPGVPLIJKC VGQIERRGLRVVGLYRLCGSAAVKELR DAFERDSAACLSEDLYPDINVITAVPSL ALEASGALTRGDPVFTGILKDYLRLEPTP LITQPLYKVVLEAMARDPPNRVPPTTEG TRGLLSCLPDVERATLTLLDHLRLVSSF HAYNRMTPOQLAVCFGPVLLPARQAPT RPRARSSGPGLASAVDFKHHIEVLHYLL QSWPWPACPDNLQMSRLTCDPNDSHLCT CRWQTPKW
5226	13277	A	6078	2	82	
5227	13278	A	6079	1	347	FFFFFFFFLETASHSVAQAGGQGHDLSSL QPPPPRFKQFSCSLPSSWDHRHKPPHPV NFVFLVETGFHHVGQAGLELLTSSDPPA SASQMAGITGVSHCAWPITIFKQSNYGM L
5228	13279	A	608	514	792	DSRCPGAMACALRAPRITNPVSAQWDP ETGSAVAGEPWIWTQRERNQSALQRGNV PFCRCRDHEFTLDLGGQGGQIT*GQEFET SLANMAKPH
5229	13280	A	6080	1	779	
5230	13281	A	6081	1	214	HPTAAIVPPGPEAGLIYTPYEYPYTLAPA TSILEYPIEPSGVLVWLSQRKAKNSRTV LTEPSSDLNLNA
5231	13282	A	6082	3	435	EPFPGGDCIPRATLESCRSMLMDTVGS GKLNLEQFHHLWNKIKGWQKIFKHYD TDQSGHHQTATKMRNAV/NTDAGHLN NQLYDIITMRYADKHMNIDFDSFICCFV RLEGMFRAFHAFDKDGDGIIKLVLEWL QLTMYA
5232	13283	A	6083	2	339	GKPTLREFTHL/WDKIKGWREIFNNITPS QSGTITGYEMRNA/VNDAGFHLNNPLVD IINTSRTADNHMNIDFESFICCFVRLEG MFRAFHAFDKDGDGIIKLVLEWLQLTM YA
5233	13284	A	6084	2	775	PSASDQSTWYLDESTLTDNIKKTLHKFC GPSPVVFSDVNSMYLSSTEPPAAAEWAC LLRPLRGREPEGVWNLSIVREMFKRRD SNAAPLLEILTDQCLTYEQITGWYYSVR TSASHSSASGHTGRSNGQSEVAHAACAS MCDEMVTLWRLAVLDPALSPQRRREL TQLRQWQLKVIENVKRGQHKKTTLERLFP GFRPAVEACYFNWEEAYPLPGVTYSGT DRKLALCWARALPSRPGASRSGGLEESR DRPRP
5234	13285	A	6085	193	388	
5235	13286	A	6086	2	353	AAAEDLSDALCEVDAVLADFASPFHER HFHYEEHLERMKRRSSASVSDSSGFS ESVADSLYRNSFSFSDKLNSTDPAL LSATVTPQAKLGDKELEAFIADLDKT LASM
5236	13287	A	6087	315	411	
5237	13288	A	6088	2	283	
5238	13289	A	6089	3	189	



5239	13290	A	609	1169	1335	NFASDDKFSLP*DYTTFKVNWP GAVAH A*NPSNLGGQGGQIT*GQEFETSLANMA
5240	13291	A	6090	1931	3137	KMEISSLKEEINMEPNHSETMFKKAKTK AKKKPRKRSDDSGGYNLSDIIQSPSSSTGL LKSCKTNSVESLPELLTSDSEGSYAGVGS PRDLQSPDFTTGPHSDKIEAKVKPYVNG TSPVYSREDLKPWEKSPILKISAPQIPSN RIDTTSSASWVAGSFSPVSPVVDLRTIM EIEESRQKCGATPKSHLGKTVSHGVKLS QKQRKMIALTTKDNNSGLNSMQTVICIP SDAP*TVNE*GSSLHSVSSKSFRDLLEE KKSVTSHSSGDHVKKVSFKGIENSQAPKI VRCSTHGTGPEGNHISDLPLLDSPNPWL SSSVTTPSMVAPVTFASIVGRGTSTKEAA LIRSREKPLALAIQIEEHAIQDLLVFYEAFG NPEEFVIVERTPQGPLAVPMWNKHGC
5241	13292	A	6091	336	410	
5242	13293	A	6092	40	921	TEVPGVHSENDKNQKKKIRKLDPKKKQ VDTVQIHQSGKKGSSFLIFFFSPLIILTVEL QVGNVVAQELSIQLELFWRTASQSVTE PTAGLCLLNPGEQEMRALRGRKPLLLI PSKQDLEWTSSKLQQTCS*GF* <sup>R</sup> *KEN* QTERSTPKPHLVGSSGQGNQAGEGK GYPVKRGRSQIVPVC <sup>R</sup> *HDCISRKPHCLN PK/YSLS**ATAAKSQDTK/FNVQKSQAF LYTNKQTD <sup>S</sup> QIMSELPFTIASKRIKYL NPTYKGC <sup>E</sup> GPLQGLQTIAQRNKTEPNK WKNIPVMGEEP <sup>M</sup>
5243	13294	A	6093	1	1960	MPPHSEQPHSPSTRQKRKVPLFVRQCPSF VIQAPKAKMDTFDGRKKQFTRFLFLFSM DQLGQGRFSMQTLSFALAVYRKDSPLV ACQVQALGNLEPSSVEAHVSSHGIAIDR KGWHVSLFSIQPGDCFPKALVEDSPDR ARRQSSKEEGWCRDRRLKFHSSKGA AAIVVKS <sup>K</sup> YESPSFGVCFESLNPRLT SRREKTISSSKRCRQCHAEETTVVFWAK ESQTGEQTGRGAGQRRMGMIICKACSM LPAERQDLRPTSLVISHGVSVKDRREHC QCPNYYPPLRNMSPLEHSIKICGKKPQ NDSQRITTTIKVIVNQDFKQDDTELSQG SRKETSEASLVTLWELVTAGQTPPLVTP RQTGSGVDLQQTPTDLQLRVLTIRKTN KQKGHPKPHLYVTI <sup>K</sup> DQRTLHPKSTEY TFFSAPHPTYSKIDHIVGSKALLSKCKRT EITNCLSDHSAIKLELRIKLTQNRSTTW KLNNLLNDYVWYKEMKAEIKMFFETN ENKDTTYQNLWDTFKAMYS <sup>G</sup> KFMALN AHKRKQORSKIDTLISQLTELEKQE <sup>T</sup> HS KASRRQETTKIRAE <sup>L</sup> KEIETQKTLQKINE SRSWFFEKINKIDRTLARLIK <sup>K</sup> KREKNQI DTIKKIKVISPP <sup>I</sup> QKYKLLFILFGTGTQIN
5244	13295	A	6094	275	1839	CPSVGFSLQAGVVF <sup>G</sup> CKLLTAKDF*QQT QGFSQ/RLSQLH <sup>T</sup> GHRA <sup>L</sup> QKKAISSKNE FTIMGQISEATSALFGEKESKEATLRGEG ARNRDDRVD <sup>S</sup> NCRLQPPGDGDEGQKV PVKYSAGDTQANRVWSGLQQTPTDLQL RVLTVRKTNKQKGPHQNPIC <sup>S</sup> ASSK TKEIQTIREYHK <sup>N</sup> LYANKLENLEMDK FLDTYTLPRLNQEEVESLNR <sup>P</sup> ITGSKIEAI NSLPTK <sup>S</sup> PGPDAFTA <sup>E</sup> FYQRYKEELRIK YLGIQLTRDV <sup>K</sup> DLFKENYKPLLNEIKGH KQMEEH <sup>S</sup> MLMDRKNQYCE <sup>N</sup> GHTAQEL EKTALKFIWNQKRAHIAKTIL <sup>S</sup> QKNKAG GIILPDFKLYKATVTK <sup>A</sup> WYRYQNRDI DQWNRTEPPEI <sup>I</sup> PHIYNHLIFDK <sup>P</sup> DKNEK WGKDPLFNK <sup>W</sup> Y <sup>W</sup> ENWLAICRKLK <sup>L</sup> DSF LTPYTKINSR <sup>W</sup> IKDLN <sup>G</sup> RPKTIK <sup>T</sup> LEENL GNTIQDIGM <sup>G</sup> KDFMTKTPKAMATK <sup>A</sup> V GKWDLIK <sup>L</sup> KSFACTAKETTIRVN <sup>R</sup> QPT <sup>E</sup> W

					EKIFAIYPSDKGLISRI
5245	13296	A	6095	78	1986
					EKTKSASDWCT*K*RGDGTLKLENTLQDI IQDNFPNLGRQANIQIEIQIMPQRYSSRR ATPRHIIVRFTKVMMKEKILRAAREKEIQ TTISEYYKHLIYANKLENLEEMGKLLDTY TLPRQNQEEVESLNRPIAGSEIEAINSLPT KKSPGPDGFTAKFYQRHKEELVPFLKQ FQSMEKEVILPNSFYEAIIIPKPGRDTT EKENFTPISLMIIDAKILNKILANRIQQHIK KLIHQDQVGFISGMQGWFNHKSXNVVIH HINRTKDRNHMISVDAEKAFNKIQQPF MLKTLNKLGIQLTRDVKDPFKENYKPLL NEIKEDTNKWKNIPIYSWIGRINIVEIAILP KVSLEERERQHDQTHVQSLEKLDLLEQE YNKLTMTQALAEKKMQELEAKLHEEEQ ERKRMQAKAAEHPRCLYLAAIFSALKN LQDKIRLELERIQAEESVKTLSTRETIEYK KVLDEQIERENSKNEESKHNOELTSQ LAAENKCNLLEKQLEYMRNMIKHAEME RTSVLEKQTPLLIPRQGRSVDLQQTPD LQLRVLTVRRKTNKQKGHPHQPICMSP SSKTKEERSSSPTERSXTENDFDELREE GFRRSNYSELKEELQTHGKEVKNLEKKI RRMAN
5246	13297	A	6096	870	1860
					TRKSRRNG*IPGHIHPKTKQEEAESLNR PITGSEIEAINSLPTKKSPGTDGFTAKFY QRYKEELVPFLKLQFQIEKEELPNSFY ASIIIPKPDRTTKKENFRPISPMNIDAK TLNKTLANRIQQHIKKLIHHDQVGF/H NARLVQHMQINKRNPAK*NRQKPHD YLNRCRKGL*QNSTALHAKTSQ*ISVGSS GQGNQAGEGNKGYSIRKRGSQMSLFAE DVIVYLENPVSDQNLKLIISNFSKVS KINVLNSQAFLYTNNRQTESQIMSEVPFT IASKRIKYLGIQLTRDVKDLFKENYKPLL KEIKEDTTFFAHG
5247	13298	A	6097	453	545
5248	13299	A	6098	1	235
5249	13300	A	6099	3	706
5250	13301	A	61	1	1194
5251	13302	A	610	24	452
					APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFDSFGNLSASAIMGN PKVKAHGKKVLTSLGDAIKHLDDLKGT AQLSELHCDKLHVDPENFKLLGNVLVTV LAHFGKEFTPEVQASWQKMTGVASA LSSRYH
5252	13303	A	6100	368	798
					LSYIYMHPIQ/RAPRFIKQALRDSQRDL SHTIIMGDFNTPLSTLDRPTRQKVNKDIQ ELNSVLHQVDLIDYRTFHPKSTEYTF APHRTYSKIDHIVGSKALLSKCKRGEIT KIKLELRICKQTQNRSTTWKLNLLND Y

5253	13304	A	6101	1	666	
5254	13305	A	6102	412	681	GDII PKCSQPLNIHFHYVFKMR*GSSRPG RGPEIRCFSPAARLLLTAHQWPQLWAI FQQVALLPHAGGADHVILFPSPVSKAT EKIVG
5255	13306	A	6103	489	585	
5256	13307	A	6104	1	1474	MDMLDKGMIQVPVESLECEHFVQEPV LPSELRSEKQEPWNQPSLDLEPSFATYM ACSM LPAERQDLRPTSLVISHGVS VKDR REHCQCPNYYPPLRNMSPLEHSIKICGGK KPQND SQRJTITITK VIVNQDFKQPDDTEL SQGSRKETSEASLVTLWELVTAGQTFQ DDRMGTAPVYSSQRRERRRRVISACPT PPLVT PRQTGSGVDLQQTPTDLQLRVLT RRKTNKQKGHPKPHLYVTIHKDQRTLH PKSTEYTFFSAPHPTYSKIDHIVGSKALLS KCKRTEITNCLSDHSAIKLELRJKKLTQN RSTTWKLNLLNDYWVYKEMKAEIK MFFETNENKDTTYQNLWDTFKAMYS GK FMALNAHKRKQQRSKIDTLISQLTELEK QEQT HSKASRRQETTKIRAE LKEIETQKT LQKINESRSWFFEKINKIDRTLARIKKK REKNQIDTIKWKIVISPPIPQKYKLLFILF GTGTQIN
5257	13308	A	6105	1	903	
5258	13309	A	6106	803	1184	
5259	13310	A	6107	1458	1568	TQTNLQEKNTTQSKSGQRV*TDTSRKK TFMQPTDT
5260	13311	B	6108	24	2456	MGVSSGDLKGLLHPRVRVGNEYVTKG QSVEQVVFVAVGALAKATYDRLFRWLVS RINQTLDTKLPRQFFIGVLDIAGFEIFEFN SFEQLCINFTNEKLQFFNQHMVFLEQE EYKREGIDWVFIDFGLDLQPCIDLIEKEE RLKPSRKKITKKHTKKRTASLILHAMICC RSLNSSKTKNTKCLNSINQLKIWSLQK DLMCGTAGRCKTLHGTSQNLNTTAHVVL ALAGSPKDADDTSIYMFYQKHILYCIVD SECKSRDVLQSYFDLLGELMKFNVD AFK RFNKYINTDAKVLKQINSSLVDSNMLV RCVTLSLDRFENQVDMKAALLSIPGFVE RLCKLATRKVSESTGTASFLQEELEWYT WLDNALVLDALMRVANESEHNQVFW FEQHGLVSGAEKAPGTTIDQAPRIYRWS DLTRTQAQWQSAMTWMSAFTETFLTE RDKQSKWSGIPQLLLKLHTTSHLHSD FV ECQNILKPLLVIPRQTGSGVDLQQTLDL QLRVLTVRRKTNKQKGHPHQNPICMSPS SKTKEAKNLDKRLDEWLTRINSIEKTLN DLMELNTMARKLRDACTSFSSQFDQVE ERVSVIEDQM NEMKREEKFREKRIKRNK QSLQEIWDCVKRPNLRLIGVPESDGENG TKLENTLQDIIQENFPNLARQVNIQIEIQ RTPQRYSSRRGTPRHIIVRFTKVEIKEKIL RAAREKGRVTHKGKPIRLTAVLLAETLQ ARREWGPINFILKEKNFQPRVSYP AKLSF ISEGEVKSFTDKQMLRDFVTTRPALQEL LKEALNMERNNRYQLLQKHAKL*
5261	13312	A	6109	82	1208	LVEGKLTNRKNIHTKTPSVHHHHQRPKC GREMWGQSPHTESLLGHHLVELWEEGH CPLDPRMVDPP TACTMYLEKPQTLNASL /WKAARSQVPQGGGKGTKKSETEIQATI REYYNKHL YANKLENLEETEKFLDTYTL PRLNQEEVESLNRRTGSKIEAIINSLPTK KSPGRDGF TAEFYQGYKEELVPFLLKLF QSIEKEGILPNSFYEASHILIAKPGRDTATT TKNFRTISLMNIDAKILNKILENQIQQHIK KLIHNNQVGFIPGMQGWFNHKSINVIHH IKRTKNKNHMIISIDAGKAFDKIQPFML KTLNKL GIDGMYLKIRAIYDKPTANIILN

						GQKLEAFPLKTGTRQGCHSYSTLTPIQH SV
5262	13313	A	611	3	552	HSLFGTSEVINKLRSPDAMGHL/TPPEEDK ATITSLWGKVNVEDAGGETLGRLLVVYP WTQRFDSFGNLSSASAIMGNPKVKAH GKKVLTSLGRCHKSTWDDLKG/TPFAQA *SELHCGQACMWDPEELSSFLGKCCWV TRFWAIPFSAKEFHPWRLQGFPKSRRW QKMTGVIASALVPSRYH
5263	13314	A	6110	1261	2396	LNALYFLLLPDCPGQN**TASKTNKEEK REESNRCNKK**SNITTNPTEIQTIREYY KHL YANKLENLEEMDNFLDTYTLPRLN QEEVESLNRPI TGSEMEAI NSLPTKKSPG PDGFTADFYQSVGSSGQGNQAGEGNKG HSIRKRGSIQVPVCR*HDCISRKPRLSPK SP
5264	13315	A	6111	1	819	MCHSAIFTVLQPPLVVIPRQTGSQVDLQ QTPTDLQLRVLTVRRKTKKQKGHPHQN PICMSPSSKTKATFEDSVWHFAERIIPDP NVIKLRKEELTLNNIRQYYVLCERKDK YQALCNIYGSITIGQAIIFCQTRRNAKWL TVEMIQDGHQVSLLSGELTVEQRAFPAQ RFRDGGKTVLITNV CARGIDVKQVTIV VNFDPVKQGEEDYETYLQRIQRTGRF GKKRLAFNMIEVDELPSLMKIQDHFNSS IKQLHAEADMDEIEKIDY
5265	13316	A	6112	1	1068	
5266	13317	A	6113	3	655	LLSNDQRCISIFNKTREKASATRVYIVLD NSGFELVTDLILADFLLSSELATEVHFYQ KTIPWVFSDDTIHDFNWLIEQVKHSNHK WMSKCGADWEYIKMGKWVYHNHIFW PVPHEYCAMPOVAHDL YAE LQKAHLIL FKGDLNYRKLTGDRKWEFSVPFHQALN GFHPAPLCTIRTLKAEIQVGLQPGQGEQL LASEPSWWTTGKYGIFQYDGPL
5267	13318	A	6114	3	225	GACGRPPFPRLPRGAPP/PAMAAPFSP PASAPGAAPTFPPLGPAWHPALFLTGIN LTCFSKEREKEAQS WY
5268	13319	A	6115	2	624	
5269	13320	A	6116	2	594	NRGSCHRGKLFEGAFKYKMGQIEIDDQV EGLQYLASRYDFIDLD RVGIHGWSYGG YLSLMALMQRSDFRVAIAGSPVTLWIF YDTGYTERYMGHPDQNEQGYLGSVA MQAEKFPSEPNRLLLHGF LDENVHFAH TSILLSFLVRAGKQYDLQSYQERHSIRV PESGAEHYELHLLHYLQENLGSRIAALKV I
5270	13321	A	6117	4	310	
5271	13322	A	6118	1	601	LQKWSLEYIQEIA GCRTVPVEVGSRYTD EEWSQTLMTVNEFISKYIVNEPRDVGYL AQHQLFDQIPELKQDISIPDYCSLGDGEE EETINAWFGPQGTISPLHQDPQQNFLVQ VMGRKYIRLYSPQESGALYPHDTHLLHN TSQVDVENPDLEKFPKFAKAPFLSCILSP GEILFIPVKYWHYVRALDLSFVS/SFWWS
5272	13323	A	6119	3	306	EIIAFS/DRAED/FRKLGCEVLGVSVDSQF THLAWINTPRKEGGLGPLNIPLADVTR RLSE DYGV LKTDEGIA YVCPAGWKPGS

						DTIKPNVDDSKKEYFSKHN
5273	13324	A	612	251	488	GGWITRSGDRDHPG*HGE/IPVY*KKLAG RGGGRLKSQLLGRLRQENGMSGGRAC SEPRSHCTPAWVTERLLLKKKKK
5274	13325	A	6120	1	774	PTRTKGFAGQGSLSGAENAGPRVVIVRAS RGLPTQLSVMASGNARIGKPAPDFKATA VVD\GAFKEVKLSDYKGKYVVLFFVPLE LHFCGAPTEIIAFSNPCRGTSRKLGL*SAG ASRWDS\HFTHLAWINTPRKRGEALGP LWIPPALLNGEPERLV*GIYGRG*KTD*G AFAYKGASLFIRLGKGCFFAKITLLIDL VGTLP\DEGFCLVQGLSQVHKTSHGG KFVPA\GWKALPVATD*APTWM TARKY FSKHN
5275	13326	A	6121	3	306	KNWPPPRFF/YKGPSSSSSSSSSSSSSS PLTPFFSSSPGVCPLKGSSSSSPPKPG RPPSSSQKGKPPFFKPPNFFPKNSPTPG GAPLKPFWKNF
5276	13327	A	6122	1	200	PPHNVPRRWSANLYLTP\SNMVLTLAIAL IGVCVFILAIIGILHWQEKKADDREKRQE AHRFHFDAM
5277	13328	A	6123	2	297	
5278	13329	A	6124	1	211	VSPHVLIRQSSRHLGSLYLQAPFV*MA GCLLETGSHV*TYKDLHVTITRHLPLW KTRSTLNFQVARSS
5279	13330	A	6125	1386	2151	DYLCEKHQYRQLCGYLQPCQGSPPCVWT PRAGSGRAALRTGMAVLARAAGQRLRA RLPPQAQRARAAAGALRERGLCAPRPP APGAGRQSPQSGELRVPSTTSSTCRSC WSARPWGSRRGRAVPQRRRNATATGSP RPLRRLPAASPRRGAASERPNWPDPPR PRTARSRALNLRSSSKVNATLVCHKET EAQRGVWTGETIPVRTCFGPLIGQQSHS MEVAEWTDKAVNHIWKAPRNTALKMT QTYNDPAD
5280	13331	A	6126	1	1337	MRNKAVGQARAPPAQLAGWAAPFPKLL DGRPQVFPEMPQPVAGCTATGPREKLG GPGRPRGRVAASVQRLMNEMNLSPVGM EQLTSSSVSNALPVSGSHLGLAASPTHSA IPAPGILSYLADRPPPQYIHPNSINVDGNT ALSITNNPSALDPYQSNNGNVGLEPQIVSI DSRSVNTHGAQSLHPSDGHEVALDTAIT MENVSRVTSPISTDGM AEELTMDGVAG EHSQIPNGSRSEPLSVDSVSNNLAADA VGHGGVPMHGNGLAELPVVMTDHIAS RVNGMSDSALS\NHTVAMSTNSGPRE SSAVAPVASHFSVHVFLFSFIWVSPADAE TLGESLLGLTVYGSNDQDPYVTLKDTEQ YEREDFLIKPSDNLIVCGRAEQDQCNEV HGNYIAVGNMTPVIEVWDLDIVDSLEPV FTLGSKLSKKKKKKKGKVKKLNI

5281	13332	A	6127	1	2412	MKMNLSPVGMAQLTSSSVSNALPVSGS HLGLAASPTHSAIPAPGLPVAIPNLGPSLS SLPSALSMLPMGIGDRGVMCGLPERNY TLPPPPYPHLESSYFRITLPGILSYLADRP PQYIHPNSINVDGNTALSITNPNPSALDPY QSNNGNVGLEPGIVSIDSRSVNTHGAQSL HPSDGHEVALDTAITMENVSRTSPISTD GMAEELTMDGVAGEHSQIPNGSRSEPL SVDSVSNNLAADAVGHGGVPMHGNGL ELPVVMETDHIASRVNGMSDSALSDSIH TVAMSTNSVSVALSTSHNLASLESVSLH EVGLSLEPVAVSSITQEVAMGTGHVDVS SDSLSFVSPSLQMEDSNSNKENMATLFTI WCTLCDRAYPSDCPEHGPVTFVPDTPIES RARLSLPKQLVLRQSVGAEVGVWTGET IPVRTCFGLIGQQSHSMEVAEWTDKAV NHIWKIYHNGVLEFCIITTDENECNMMM FVRKARNREEQNLVAYPHDGKIFFCTSQ DIPPENELFFYYSRDYAAQQIGVPEHPDVH LCNCGKECNSYTEFKAHLTSHIHNHLP QGHSGSIGPSHSEKWKCSMCPQAFISP SKLHVYFMGHMGMKPHKCDFCSKAFSD PSNLRTHLKIHTGQKNYRCTLCDKSFTQ KAHLGVHMHVIHTGEKNLKCXY/CVVK LFYGGSRDLQGRHVLHVTQERQIKCPK CDKLFLRTNHLKKHLNSHEGKR/DYVC EKCTKAYLTKYHLTRHLKTCKGPTSSF VQAPEEEEEDDSEEDLADSVGTEDCRI NSAVYSADESLSAHK
5282	13333	A	6128	1	1767	MQALIPLESQSGMTQTSGVSTETGDVVK DMGVNNQSKEGRCPWKDHEAAPWISEK PKKRGNEGKSKKFKNNYSTQPARMERK EELNPPFEGKDGDGTSIPHSKEIGFTFP KMHDSFSHTPDPTVEAVDRKGGNFQ VNFVELGTLGENKISTVKASTVTEPPAK VTDVSCQEQIQGAGFVPSVSEENKTD ANRYTAVADKPSESRNDGKSSGSAACE KLPTPTPVVKEGDSFPDTLAKNGQEAP AQISKSLMVDNYTKDGVPGQERPKGSA VVPSTSTGGVALPITTAIETVNIHGDHSL KNKAELADSMKNEAGIDEGHVIGESV HSGASKHSVEKVTELAKGHLLPG/CASR RPEPTRRGQSPRR/T/HADRGNFPAHPVN EEKETKEGSVAVQIPDLLEDKAQKLSFC EDQNAQDRNSKGSDSLNNKVDLTLLSP KSENDKLKEISLACKITELESVSLPTPEIQ SDFLSKVEAPPSEVADTLVIMTASKGV RLPEPKDKILETPQKMTESKSTPGEK KEDKSRMAEPMKGYMRPTKSRGLTPLL PKSTIQEQERHKQLKSAGMNLPGWNC ACGF
5283	13334	A	6129	893	3822	GKGNHATVNLLSFLQRPQVGSVHPPVV G/HGNQRKSIHVDSLEPQRDLGREAWDI ESTPIMMKKKKKKPKQKRYSPRAGGP SDDDNADKPKGHPFAADTQKSGVLPSQ PTTMGTEYGLVSGENLKRECLVNSSAAR LVAENFVSESLRIPLYPSEEAPKTAISSQS KL RVEEESKSNKSVLQNDKKLLKQHE YKQPAPHLKTPVDKSQSVGPLNLKGPL AEVSAYNVETPLDIRLKEGCSFFLDQEV MGVV
5284	13335	A	613	5987	6461	GVNKSWNHWFHLGVREAEHAGVVRT PHHDLVLLPRGMAACALGACSLGAV PGHPVAGGVSHGCSSGTTYRGERHRV GRMRQKNRLNPGGGGCGEPRSRHYTPA WATVEQNSVSKQNKTKQNKHRLVHWN RKKWIYLLFALKKYKMSMLCRKS

5285	13336	A	6130	1	1965	MQALIPLESQSGMTQTSGVSTETGDVVK DMGVNNQSKGRCPCWKDHEAAPWISEK PKKRGNEGSKSKFKNNYSTQPARMERK EELNPPFEGKDGDGTSGIPHSKEIGFTFP KMHDSFSHTPDPTVEAVDRKGGNFQ VNFVELGTLGENKISTVKASTVTEPPAK VTDVSCQEQIQGAGFVPSVSEENKTDA ANRYTAVADKPSKRSDGSKKVKNSS PEKHILENKIDATKIHVPMETTGDQGIEG WPIWTKIEIL/RFTCPRTPELINKSSPLEV LESAACEKLPTPTQVVKEGDSFPDTLA KNGQEIAPAQISKSLMVDNYTKDGVPGQ ERPKGPSAVVPSTSTGGVALPITTAJETV NIHGDHSLKNKAELADSMKNEAGIDEG HVIGESVHSGASKHSVEKVTELAKGH LLPG/CASRRPEPTRRGQSPRR/T/HADRG NFPAPHPVNEEKETKEGSVAVQIPDLLED KAQKLSFCEDQNAQDRNSKGSDSLNNK VDLTLSPKSENDKLEISLACKITELESV SLPTPEIQSDFLHKSVEAPPSEVADTLVI MTASKGVRLPEPKDKILETPQKMTSE SKTPGEGKKEDKSRMAEPMKGYMRPTK SRGLTPLLKSTIQEQRHKQLKSAGMN LPWGNVCACGF
5286	13337	A	6131	1632	2783	VILLSKSLIIQENFFFF*QSFALVAQAGV QWSNPCSLQPPPPGFNGFSLILPSSWD YRRVPPCPANFVFLVETGFHHVQAGL ELLTSGDPPTSASQSAGITGVSHHAQPAE DIANNVTLFFPLHLFL
5287	13338	A	6132	240	564	NGWEFKHGSPWPGGFFFFFETESRSV A/TRLECSGVIPAHRLCLPGSSDSPASAS QLTGTGAHHHARLIFVFLVETGLRHLS QAGLELL/NLIIHQWNPQELGLQA
5288	13339	A	6133	1	1898	MAASGRGLCKAVAASPPAWRRDNTA RGGLKPEYDAVVIGAGHNLVAAAYLQ RLGVNTAVFERRHVIGGAATEEHPGFK FSRASYLLSLRPQIYTDLELKKHGLRLH LRNPYSFTPMLEEGAGSKVPRCLLGT MAENQKQIAQFSQKDAQVFPKYEEFMH RLALAIPLDAPVDMAAFQHGSLLRQ MRSLSTLKPILLKAGRILGAQLPRYEV TAPITKVLDQWFESEPLKATLATDAVIG AMTSPHTPGSGYVLLHHVMGGLEGMO GAWGYVQGGMGALSDAIASSATTHGAS IFTEKTVAKVQVNSEGCVQGVLEDGTE VRSKMVLSTSPQITFLKLTPEWLPEEF LERISQLDTRSPVTKINVAVDRLPSFLAA PNAPRGQPLPHHQCSIHLNCEDTLLHQ AFEDAMDGLPSHSDLGSAKIHTPKDRKC IPGEKSEDEGRPVIELCIPSSLDPTLAPPG CHVVSLFTQYMPYTLAGGKAWDEQERD AYADRVFDCIEVYAPGFKDSVVGRI PPDLERIFGLPGGNIFHCAMSLDQLYFAR PVPLHSGYAAGPLQGLYLCGSGAHPAPY SEILTSITKRVPIQHVHPQLRLWAVDLA PPQTFGAGSLEGARIY
5289	13340	A	6134	163	513	CLLFFLTPSHFSVFGTPVFDCNRVYAPGF KDSVVGRDILTPPDLERIFGLPGGNIFHC AMSLDQLYFARPVPLHSGYRCPLQGLYL CGSGAHPGGVMRAAGRNAAHVAFRD LKSM

5290	13341	B	6135	1	720	MGCKHWMTCGRARKEGKDDSYMOTQ WLHRAFAAPPETCPFPLRDHIQTGRDL LGTFEKC VFWGGAEREVWRERHQREP LRAAFAGQLEFPAGVGLAGPALGAAGQ PCWPRGNEGLSTRASGCGGCTGSSSSAS PPVLC SISHQALAAFLRGRSRDLQRAMP EPPTPSMGSCAAGASPTSTTPCSKEPSID HPRAEECECTARDWQAAPPAALVRDPL GEASWAPESGGDMESLYI*
5291	13342	A	6136	133	311	QLHADK VSRFATHA/GVPWCDHGLFQP QPPPLKRSSCLSLWSSWDYRHAPHPAII CLLL
5292	13343	A	6137	1	1098	
5293	13344	A	6138	2	241	PPRFKRFSCGLSSSWDYRCTPPRSANFC NLVEMGFHHVQAGLELLTSDDPPTLAS QSAGITGVSHHAGPHRFLINII
5294	13345	A	6139	3	333	YFISSHFISFHYVISFHLITFHLISFH/HHFI SSFHFISSFHFLFISFH/HHHLNSFHLISSFH HFISFHLISYLSISFQF/HFHYFMSSHLISSF HLITSHHFNFIISSFH
5295	13346	A	614	180	345	GLSFHMLKKKVYKMYCIYMYICTHTHT HLI*MYINRPSLYDYQFLFYLSQLDSC
5296	13347	A	6140	3	137	GVSPCWPGWSRAPDLK*SAHLGLPKCW HYRRPIHDCGQAPHLHC
5297	13348	A	6141	967	1386	KKKKIFIGHQLRWL*RFFFFFFFETGSHS VPQAGVQWCDHGSLOQSPWAQRSSNL SLPSSWDYRHLPPCLANF/FFVEMGLT MWPRLVLNSGSPDLPASVSQ/SAGITGV SHRNWWPMKIFFFQTASHVAQAGVQ WCNLGSLQALPPAFMPFSCLLPQPPSSW DYRSLPPCLANF/CFGFLVETGVSPCWPG WSRTPDLR
5298	13349	A	6142	278	643	GRQERGERESSRPLGGRKCQ/HWLAVN AQKLLALQVEKAKVEGVGAPALGILV VAGCSFAIRRYQKKSDSLKQPQNPVLEA AVGVVPVEMSLPHASSSLTLVPCLRRLD PFLCFPLSLAKV
5299	13350	A	6143	18	479	QRTFCKGKWKGA AKILIDLNNLFLCKLE QKGTDLALVIAMENYGSLSKKGVLDLPG AVDLLAMSEKDIQDLKFGVEWDVDMVF ASFIHVASNVEIRKAIANWSKVPTCPP ELGSYLPRGTETHSYFYISYSSDQIQICKP LHYSYGRNYDTL
5300	13351	A	6144	3	282	RSPPA\GSPPPSAPAPRLPPPPAPPPALPP ASRPTFPPLPVSLPVLSSRSLSLPPAFLF SFFCIGVLGLLHTRALSIAAYIKAGAIMQ LYC



5301	13352	B	6145	26	2671	MAAPGAPAEYGYIRTVLGQQILGQLDSS SLALPSEAKLKLAGSSGRGGQTVKSLRI QEQQVQOTLARKGRSSVGNLHRTSSV PEYVYNLHLVENDFVGGRSPVPKTYDM LKAGTTATYEGRWGRGTAQYSSQKSVE ERSLRHPLRRLEISPDSSPERAHYTHSDY QYSQRSQAGHTLHHQESRRALLVPPRY ARSEIVGVSAGTTSRQRHFDYHRQYQ HGSVSDTVFDSIPANPALLTYPRPGTSRS MGNLLEKENYLTAGLTVGQVRPLVPLQ PVTQNRASRSSWHQSSFHSTRTLREAGP SVAVDSSGRRAHLTVGQAAAGGSGNLL TERSTFTDSQLGNADMEMTLERAVSML EADHMPPSRISAAATFIQHECFQKSEARK RVNQLRGILKLLQLLKVNEDVQRAVC GALRNLFEDNDNKLEVAELNGVPRLL QVLKQTRDLETKKQITDHTVNLRSRNG WPGAVAHACNPSTLGGQGGRTSGVR DQPDQHGLLWNLSSNDKLNLMITEAL LTLTENIIPFSGWPEGDYPKANGLLDFDI FYNVTGCLRNMSAGADGRKAMRCD GLIDSLVHYVRGTIADYQDDKATENCV CILHNLSYQLEAELPEKYSQNIYIQNRNI QTDNNKSIGCFGSRSRKVKEQYQDVMP EEKSNPKGVEWLWHSIVIRMYLSLIAKS VRNYTQEASLGALQNLTAGSGPMPTSV AQTVVQKESGLQHTRKMLHVGDPSVKK TAISLLRNLSRNLSLQNEIAKETLPDLVSH PDTVPSTDLIETTASACYTLNNIIQNSYQ NARDLLNTGGIQKIMASAGDAYASNKA SKAASVLLYSLWAHTELHHAYKKAQFK KTDVNSRTAKAYHSLKD*
5302	13353	A	6146	2	355	FYFLRWSFTLIAQAGVQWRDLGSPQPLP PRFKQFSCSLNSWDYRHAPPRPANFL CF/LVETRFLHAGQAGLELLTSGDPPTLA SQSAGITGASHRNPVQSILRLEGLLETIV QPPT
5303	13354	A	6147	3	277	FFLETEFRSTQSPRLECSGAISAHCNLQLP GPSHSPASASRAAETTGLCHHARLIFVFL VEMRFHHVQGSGLELRQAICLPRPPKVL GPQA
5304	13355	A	6148	20	363	LHHFPKPCPAHFSACIHWPOHPHTCACT QAHMCKPKH/THTHACTH/ICVLSGTHP WVHTGVCARSSSSS/PSSSSSLRYTRQV HALLHTAQPQRLKASEPTAQLQPGRQE GLTG
5305	13356	A	6149	3	301	STATWAGVQWCNLSLQPLPSGFKPFSC LSLPGSWDHRHLPPCANFLYCFFLVEM GFHYVGQAGLKLLT/S/GDLCASAPQSAG STGVNHRVRLGLLIYP
5306	13357	A	615	173	338	GLSFHILKKKVYKYMCIYMYICTHHTH LI*MYINRPSLYDYQFLFYLSQLDSC
5307	13358	A	6150	15	352	DSIFTLVCAEHINFLRAGQHWGCVIDCL HYNKQAVTGDHSSYAERSSTPENGGRE GTREQGERGGTWGRGGG/QRPSIPDR QKNQGRGGGNPLSGRGKVKAITHILLI
5308	13359	A	6151	20	415	
5309	13360	A	6152	24	156	SSFVMECLPELVGSWSH*LQE*SRGPLR *RTHSSRYMVKRQE
5310	13361	A	6153	128	880	
5311	13362	A	6154	310	719	LRTYPTIRGPVREEKWGYVQTESRSVAW AGVQWHCFTELRFVLSLTSRMKPRTL AVSVPALKVARLEFVSSDVQRWGFHHV GPAGLELLTSSDLPVSASQMAGITGTRH RAWPWEHVYMDVFVHFLKQTEGNLLDL
5312	13363	A	6155	1	169	FFETGSCSVAQAGMQCDHGSLOPCPPG SWDPPALASQSAGITSMSSHHPKLF

5313	13364	A	6156	525	972	NHLGGFKQILMPRLHPMPMKSFLGV SAR QLYFFFFFFFETESHIVQAGVQWRDLGS LQPLPPGFKQFSCSLPSSWNYRHTLPRP ANFLYFLVETGFHCVAQAGLKLLSSGNL PALASQSARITGMSHARLAVVFFKALL SSSRTRI
5314	13365	A	6157	300	500	DGLCSKQT*NGVPSITNPIKTANQHOGK KQHPIQGNRTAPSSSVSYMKRCELLPKG TGLEVVRESG
5315	13366	A	6158	1	1889	MGLLQGLLRVRKLLLVVCVPLLLPLPV LHPSSSEASCAYVLIVTAVYWVSEAVPLG AAALVPAFLYPFFGVLRSEVA AEYFKN TLLLVGVICVAAAVEKWNLHKRIALR MVL MAGAKPGMLLCFMCCTTLLSMW LSNTSTTAMVMPIVEAVLQELVSAEDEQ LVAGNSNTEEAEPISLDVKNSQPSLELIF VNEDRSNADLTTLMHNEENLNGVPSITNP IKTANQHOGKKQHPSQEKPVLTSPRK QKLNRYRSHHDQMICKCLSLSYSATI GGLTTIIGTSTSLIFLEHFNQYPAAEVVN FGTWFLFSFISLMLVVSFWFWMHWF LGCNFKETCSLSKKKKTKREQLSEKRIQ EEYEKLGDISYPEMVTGFFFILMTVLWFT REPGFVPGWDSFFEKKGYRTDATVSVFL GFLFLIPAKKPCFGKKNDGENQEHSLG TEPIITWKDFQKTPWEIVLVGGGYAL ASGSKSSGLSTWIGNQMLSSLPPWAV TLLACILVSIVTEFVSNPATITIFLPILCSLS ETMHINPLYTLIPVTMCISFAVMLPVGNP PNAIVFSYGHCCQIKDMVKAGLVNVIGL VIVMVAINTWGVSLFHLDTYPAWAR VSNITDQA
5316	13367	A	6159	41	570	SLHDSTADSIRTTCQGVISTLKAHYLRRT FQHILEAADGEDPSYIKFEWRNYSIMDA VDMAIAWEELKPALMNSMWKKIWPEC VQAQRFSQADNIAQLQKNIVTLARNVAF EEVAEAAVDQLLSHEEDLSNEELMRLE QELAVGEEEREDGPWALWQLTTGRLSA ALSHFEAGL
5317	13368	A	616	363	412	
5318	13369	A	6160	3	367	HASAHAFGQLSCVSKLMRDVCGQPCFSP RGMV/LYLQWGRKYSRIGNSSWOIKEK VWRFSTAFCSVNEWKFADILSMADHLK KCSYNVVEKREEAIPLCMCVTRELTK GRSLRSVLKPVL
5319	13370	A	6161	74	295	AEDKSQMLLDLRWSYIRTSSSADRSHA SGPRIAHKWSTVDRNRPRYDSNNELA EQLS*ICSICSRVFFKA
5320	13371	A	6162	32	342	
5321	13372	A	6163	184	556	
5322	13373	A	6164	251	1133	PNDKRLILFRTPWQCLSVRTVARRCT ALTFIASEEKVLVADKSGDVYSFVLEPH GCGRLELGHL CMLLDVAVSPDDRFLTA ARDEKMRVSWAAAPHSESFCALGHTF VSRISVPHSARALLSSSGDGLRLWEY RSGRQPALLSPWPVCRSSVDPQAPQKFA ASRIAFWCQENCVALLCDGTPCGLHLP GRPQTAVGVQAAAGVPAPSVGRGFRGD PGAVGAPGLARKPPWCYSYRHVGDQWQ SVPESTVLKKVSGVLRGNWPMLELRCR RRRQLSAVSYKAHVPTT
5323	13374	A	6165	1	391	APMAGCLSFYLIQGGDDKGFSLYTRDG AGLYKEIWKADRPNGNAAWNLAEGEFNA PYPMEVIFEDAFNGPKGGYVALDDISFSP VHCQNQTELLFSAVEASCNYEQDL CNFY QDKKRPGWTRVKGKPNML

5324	13375	A	6166	3	1459	KLPPPPGECTFEQDECTFT/AGEKKPEQL AQEEGETPTSYTGPKGDHTTGTVVSSH ASECPFGLNSDALLPKKICSLVLLTSFL AASADSGTMLLRWGCLKSKIKMSVGLV PSEISLLGLQMAAFLLHMAFPLCQCTPD MYLLLTVGNNRHGRQKQIKGALLYWTF TTCRHCARNLNILSTCKDKVGEFAKLS KIELLEATEKSIGPPEMHKYHCELKNLRE KEKQLEDLLATKIASKVAKLGILLGMPT LEIGGKEGGWGTGYWLRAEKEDGDYL CIEGSEGLNTEKIVPVMQERNININKKD VHSETPAKGHQLQRPKVDKSMKMGRN QHKKAENSKTQITSSPPKDPKSSPAREQT CMENEFDKLTEVGFRRWAITNSPELKED VLTQCKEAKNLEKRLDKLLTRITSLEKS MNDLMELKNTGRELCEAYTSINSRIDQV EERISEIEDQLNEIKQDDKIREKRVKRNK QSPKKYGT
5325	13376	A	6167	1	393	
5326	13377	A	6168	1	1137	
5327	13378	A	6169	1	1793	MAETAVINHKKRKNSPRIVQSNLDEAA YSLSRDQKRMLYLFVDQIRKSDGTLQEH DGICEIHVAKYAEIFGLTSAEASKDIRQA LKSFAGKEVVFYRPEEDAGDEKGYESFP WFIKRCATAVGRQRTHADKERGAREKG GEKKAKAKKTSGRTRKGGGRERKKKGE QEGKDGQRNAQTKGEKQPHKANTPPK TLQQRKEKKTGDSHRRKKLKFKESEKVL SQEWEHDFVIETMATGARPQLLFSAVEA SCNFEQDLNCFYQDKEGPGWTRVKVKP NMYRAGDHTTGLGYLLANTKFTSQPG YIGRLYGPSPGNLQYCLRFHYAIYGLK MSDTLAVYIFENHVVQEKIWSVLES GVWMQAEITFKKPMPTKVVFMSLCKSF WDCGLVALDDITIQLGSCSSSEKLPPPPG ECTFEQDECTFT/AGEKKPEQLAQEEGE TPTSYTGPKGDHTTGTVGYMYIEASHM VYGQKARLLSRPLRGVSGKHCLTFFYH MYGGGTGLLSVYLKKEEDSEESLLWRR RGEQSISWLRALIEYSCERQHIIFEAIRG VSIRSIAIDDVKFQARPACGEMEDTPQQ SSGYSEDLNEIEY
5328	13379	A	617	540	820	KIGPQPGQHSKTL*TIKKKLARCGGTC LWSQLLGRRLRWEDCLSAGS*GCGEL*SY HCTPAWVTERDLVSKTQKNRAITGKLLL DVLSSLIR
5329	13380	A	6170	2	392	RNKKQGYPAFHVFSTFFYPK*KSGGYQA VKRWTKGVNLFQEIIIVPIHRKVHWSL VQYLQDESKTKRNSDLNLEWTHHSM KPHEIPQQLNGSDCGMFTCKYADYISRD KPITFTQVSEDPLHPFTCY
5330	13381	A	6171	2	386	MNLLVERNKKQGYPALHVFSTFFYPKL KSGGYQAVKRWTKGVNLFQEIIIVPIH RKVHWSLVVIDLRKKCLKYLDMSGQKG HRICEMVLGYLQDESKTKRNSDLNLE WTHHSMKPHEIPQQLNGE
5331	13382	A	6172	3	162	
5332	13383	A	6173	3	407	TRRADPLRTWRWHNLLVSFAHSIVSGIW ALLCVWQTPDMLVEIETAWSGLLV CFSAGYFIHDTVIVASGQSASLLAEYL HHVMAMGAFFSGIFWSSFVGGVLTLL VEVSNIFLTIRMMMKISNAQDHL
5333	13384	A	6174	13	367	KYLFFFLKDHTKVGGKRRMSIRLHQNLGR GRTKSCLKKLVAGANCRDQDDSPRNQ QPRSATFRPSNRCH*IPQ*PYSACPHPG SGGQFRSLRGLIVEYRSESRHISYRRYAG LCEY

5334	13385	A	6175	3	413	AAIEELCGRQAARAEAVRGLRGRGLR/ WPLPWHAPPAPAHGAPLARPGARARRSE KPPSEKPRLLRSSPRAQEEGPGEPPPEL ALLPPPPPPPTPATPTSSASNLDLGEQRE RWETFQKRQKLTSGCRQAPARHL
5335	13386	A	6176	2	445	RPLPWHAPPAPAHGAPLARPGARARR/CE KPPSEKPRLLRSSPRAQEEGPGEPPPEL ALLPPPPPPPTPATPTSSASNLDLGEQRE RWETFQKRQKLTSEGAAKLLLDTFEYQ GLVKHTGGCHCGAVRFEVWASADLHIF DCKYRNYI
5336	13387	A	6177	2	265	FLMESRSVTRLECSSTITAHCNLCPLVSS DSAVSASQVAGTTGMRHHAQLIFVFLVE TGFHHVQDGLHLL/NIVHLPFPKVLG LQA
5337	13388	A	6178	1	394	WLVGFGFGFEIESRPVAQAGVQWRNL GSLQSPSKFKRFSFLNLPSSLDYRHTPPS LANFLYLVMGFHHVQDGLLELLTSDP PTLASQSAEITGVSHRTQPRSAILLSQSS LLPLLRTFISSVPVTE
5338	13389	A	6179	3	1306	HEISLGAICAVLLVIMGLFATRCNREKGD TRSYNCRVAESTYQHHPKRPSQIHKGD ITLVPTINGTLPIRSHHRSSPSSPTLARGQ MGSRQSHNSHQSLNSLVTISSNHVPENFS LELTHATPAVEQVSQLLSMLHQGQYQPR PSFRGNKYRSYRYALQMDKFSKDS GRGDSEAGSDYDLGRDSPIDRLLGEGF SDLFLTGRIPAAMRLCTEECRVLGHSD QCWMPPLPSPSSDYRSNMFIPGEEFPTQP QQQHPHQSLEDDAQPADSGEKKKSFTF GKDSPKMRITLGDSTSTSLSEMSSVFQR LLPPLDITYSECSEVDRSNSLERRKGPLP AKTVGYPPQGVAAWAASTHFQNPNTNCG PPLGTHSSVQPSSKWLPAEIEIPENYEED DFDNVLNHLNDGKHELMASELVAEIN KLLQDVRS
5339	13390	A	618	45	364	HHLHLFQRHKSQMRMTMNTGLFEILTMLL TTMNLVDIFHEKADVVDMAYNADFDEY LNCTDRMDIKYVVQLKEEQASHHH*D TECENA*ARWAARMTHIFLPMDDYN
5340	13391	A	6180	21	375	GVSTVGIGRGRLELWAPPEKYTPPGRPS HPLWLWEGGGGSIRREIDTSSPHQVPV QSWFDDMGNTLLNLIPIFEELNGAKDV YTSL/GAAAGPLDCPAFKRRPFHYGTFFH CAFTI
5341	13392	A	6181	3	471	HASAHASAHQVYVLRPYVDEFLRGMG ELFECVLFTASLAKYADPVTDLDRRGV FRARLFRESCVFHQGCYVKDLSRLGRDL RKTLLDNPSASYIFHPENAEVQSWFDD MAYTELLNLIPIFEELSGA*DVTSL/GAA AGPLACPASKRRPSQ
5342	13393	A	6182	1	1953	
5343	13394	A	6183	3	240	
5344	13395	A	6184	1	462	
5345	13396	B	6185	1	546	MVKPLSLQMVPLHSSLGNRGSLENKNT GVWESAASCCMAGCGGPADGICSEPLG HDQDGRAQSLLLWAKLTRKDRFSSQPR SIPSFDFLKAKALAKQRETIWEKVFSPPQ AGVLSPPGSATLLSTLEQGAVGQKPPSV PCLMGLFVEHLTTWQLTSSVQASKSKRE DSPETVIAKQKAQSF*

5346	13397	A	6186	1	1846	MWSVPCLEKVDVLAWTVLCLAVKIKM NKLRSFRRKKDVYVPEASRPHQWQTD EEGVRTGKCSFPVKNWQRLFIQSLAMR SLSASCCHQPAVYSSHGTAQVHAKGCL QAHHRACCPSCSPAAAAIFAAATPDG PLLPSRPLVNLIEKSQALVRETLTSQASA PNSGRAGQPVTVCLS/GANAAWRPALEA PVDGTGLWPETQAVSQCLG*EHSACLER KQKREKECGVTATFDASRTTFTREGSFR VTATEQAEREEIMKQMQDAKKAQTSV N*TAFPRGRTSTTSTGRLWLMGRPASLA RGMSVWMAAAGLSAVITSWTRPSRRTS VCGVGVTARPATPSQAPLTLMTSAEL*R MFVGNNTSMGTGPSRRPGPCQPAPSCI TSGVLRGT/SAPER/PPCPGPTSEPLVI/VA PASAGATAHGVTAAARSVAEVTSPAWCS APSTMRTPTTCASASHGQLTGVPAlFTL ARRPSAGLLGWWRTWLCMGPQGCS/SP LGPCTRGLQSWPRMAGRQGHGHPAQP VEEAPSPAPCTASRLTGPARRRPWRLS VPGCLGSPLPFRPVTC SAVQPGARSPGES VLSVVALASGSGALLAGVKGVLC SIPQR APWKTGHL
5347	13398	A	6187	1	1542	
5348	13399	C	6188	539	1039	MPYPAPNPVVGITPSQMVANXFGTAG HPQAAHPHQSPSLVRQQTFFHYEASSAT TSPFFKPPAQHLNGSAAFNGVDDGRLAS ADRHTEVPTGTCPVDPFEAQWAALENK SKQRTNPSPTNAFLHVTYRRRLKLNFKQ SLWLCILSIPDREQGVAVKGAKQTLCPD*
5349	13400	A	6189	303	2235	VKIKMNKLRSFRRKKDVYVPEASRPH QWQTD EEGVRTGKCSFPVKYLGHVEVD ESRGMHICEDAVKRLKATGKKAVKAVL WVSADGLRVVDEKTKDLIVDQTIKVSF CAPDRNFDRAFSYICRDGTTRRWICHCF MAVKDTGERLSHAVGCAFAACLERKQK REKECGVTATFDASRTTFTREGSFRVTT ATEQAEREEIMKQMQDAKKAETDKIVV GSSVAPGNTAPSPSSPTSPTS DATT SLEM NNPHAIPRRHAPIEQLARQGSFRGFPALS QKMSPFKRQLSLRINELPSTMQRKTD FPI KNAVPEVEGEAESISLCSQITNAFSTPED PFSSAPMTKPVTVVAPQSPTFQANGTDS AFHVLAKPAHTALAPVAMPVRETNPWA HAPDAANKEIAATCSGTEWGQSSGAASP GLFQAGHRRTPSEADRWLEEVSKSVRA QQPQASAAPLQPVLPQPPPTAISQPASPF QGN AFLTSQPVVGVVPALQPAFVPAQS YPVANGMPYPAPNPVVGITPSQMVAN VFGTAGHPQAAHPHQSPSLVRQQTFFHY EASSATTSPFFKPPAQHLNGSAAFNGVD DGRLASADRHTEVPTGTCPVDPFEAQW AALENKSKQRTNPSPTNPFSSDLQKTFEI EL
5350	13401	A	619	112	322	NSLIAGYILVYVKTPRTQKEKSLKVLST YIKVAKYKV*ILKSITLFTTKEYSKINIK MPFTTPTFTPN

5351	13402	A	6190	795	2728	GLSNFFRGRVPVQPLLQFKILIYIHRLEY WWASNPQTPHLGQAVKIKMNKLRSFR RKKDYYVPEASRPHQWQTDEECARTGK CSFPANDLGHAEEFFESRGMHICEDAVKR LKATGKKAVKAVLWVSADGLRVVDEK TKDLIVDQTIKVSFCAPDRNFDRAFSY ICRDGTTASHGFCRCFMAVK/DTQGERV EHMQ*ICAFAALFRRARQKREKECGVT ATFDASRTTFTREGSFRVTTATEQAEREE IMKQMQDAKKAETDKIVVGSSVAPGNT APSPSSPTSPTS DATT SLEMNNPHAI HAPIELARQGSFRGFPALSQKMSPFKR QLSLRINELPSTMQRKTDFPIKNAVPEVE GEAESISSLSQITNAFSTPEDPFSSAPMT KPVTVVAPQSPTFQGTWVGSSGAASPG LFQAGHRRTPSEADRWLEEVSKSVRAQ QPQASAAPLQPVLPQPPPTAISQPASPFQ GNAFLTSQPVVGVVPALQPAFVPAQSY PVANGMPYPAPNPVVGITPSQMVANV FGTAGHPQAAHPHQSPSLVRQQTFFHYE ASSATTSPFFKPPAQHLNGSAAFNGVDD GRLASADRHTVPTGTCPVDPFEAQWA ALENKSQRTPNPSPTNPFSSDLQKTFEIE L
5352	13403	A	6191	1	1825	MNKLRSFRRKDVVPEASRPHQWQT DEESVRTGKCSFPVKYLGHVEVDES MHICEDAVKRLKAQRKFFKGFFGKTGK KAVKAVLWVSADGLRVVDEKTKDLIVD QTIKVSFCAPDRNFDRAFSYICRDGTT RWICHCFMAVKDTGERLSHAVGCAFAA CLERKQKREKECGVTATFDASRTTFTRE RSFRVTTATEQAEREEIMKQMMDAKKA ETDKIVVGSSVAPGNTAPSPSSPTSPTS DATT SLEMNNPHAI HAPIELARQGSFRGFPALSQKMSPFKR QLSLRINELP/SPT MQRKTDFPIKNAVPEVEGEAESISSLCSQ ITNALSPEDPFSSAPMTKPVTVLAPQS PTFQGNEWGHSSGAASPGLFQAGHRR TPSEADRWLEEVSKSVRAQPPQAPAAPL QPVLPQPPPTAISQPASPIQGNAFLTSQPV PVGVVPAHMQPAFVPAQSYPVANGMP YPAPNPVVGITPSQMVANVFGTAGHPQ AAHPHQSPSLVRQQTFFHYEASSATTSPF FKPPAQHLNGSAAFNGVDDGRLASADR HTEVPTGTCPVVPFEAQWA ALENKSQRTPNPSPTNPFSSDLQKTFEIE L
5353	13404	A	6192	164	282	
5354	13405	A	6193	193	274	
5355	13406	A	6194	3	247	FFFFNRFIAALFKITKIWKQPRCPVSE WDKLWY/YTIEHNSALKRNLSCPKM RKLKSILLSKRRQSEKATYYITATM
5356	13407	A	6196	57	361	GLTMDTQKDVQPPKIQPMIYICGECH/ TPENEIKSRDPNRCRECGYRIMYKKRTK RLGRFLMARWNAGEFQREWPSPYTLGF GSLPHFWIVCYSFSIFALQ
5357	13408	A	6197	2432	3682	NSLILLFFFFRQRSLTLECSGVISAHHNL HLPSSSNS/P/ASAS*VAGITGMHRHAWPI CIFLVETGFRHVGQAGLELLTSGDPPAPT SQSM*ATTSGLILLSKILFPFHSTKVFK* SCPS*KILKEENCVINEWFNSESSYTSKE KNNLVPNAC*EINTM*VATNCDFT/SLL*R SENYPKLFHNNETTSQKIHLKIKISRPATS GQWULFSLVWWRARKG*GILMIHNGILY *TIC*IKLHRLP*GMDYPNQPD/MKSGWD KRMSHTL*F*GKEIVDFQNNQNKLSL YLSVQE**HEEFFFRDLKYNKPGSTIKSL VSF/HSLLTFFFFFEARSHSASQAGVQW GNIGSLQAPPGLKRSSYLSLLSSWDYRR VPPHPANFCIFCR/GWGFGVSPCCPGSSG

						TPVLKWRAHLSLPNC
5358	13409	A	6198	1	632	KYRQDLTVPPGYCTGEQGAGGRPGETEP WLRPPALLPSWDFLLCASSGAVLPVRTQ DPFLPYPPRACPGQQAASSATTSRPCPEV KEAGWGSPGHLARHALSHVPPPARVVL VLRERWHFCGDGRVLLGSRALRERHLG LMGYQLL/PGEWPWPGPWRLTPSLRVT CRPLLSQQLPFEELESQRG/LCPQLKSYLR QKLQALGLRWGPEGG
5359	13410	A	6199	2	313	EVRVYDLTQYEHCPDDVLVLGTDGLWD VTIDCEVAATVDRVLSAYEPNDHSRYT ALAQALVLGARGTPRDRGWRLPNKL GSGDDISVFVNPPGRARQLLLRG
5360	13411	A	62	994	1108	
5361	13412	B	620	180	372	MAKDAGLIEANGELKV FIDQNLSPGKGV VSLVAVHPSTVNPLGKQLPKTFGQSNV NIAQQVVIX*
5362	13413	A	6200	401	531	
5363	13414	A	6201	1	864	
5364	13415	A	6202	9	811	YIVTTLRQLGTRGTPGRFIYTALNEPTID YGFQRLQKVIPRHPGDPERLPKEVILKRA ADLVEALYGMPHNNQEIIKRAADIAEA LYSVPRNHNQLPALANTSVHAGMMGV NSFSGQLAVNVSEASQATDQGFTRNSSS VSPHGYVPSTTPQQTNYNSVTTSMNGY GSAAMSNLGGSPFTLNGSAANSPIAIVP SSPTMASSTSLPNSCSSSGIFSFSPANMV SAVKQKSAFAPVVRPQTSPPTCTSTNG NSLQAISGMIVPPM
5365	13416	A	6203	299	826	LEGHCHNLSSLQISASLGFKRFS/CLTSPS SWDSRNTPPCPANFC/EFLVENGFIHVG QAGLKLLTSSHPPSMASQSAGITGMSHQ AWPTFPVLINFNSLKMCRMCPMATHLG QCPSREYKIHSCSCAELEGQAHHEPDVG VTISIRKCPVPNALWWKELVPGAQGHGP HLEPEGLG
5366	13417	A	6204	1161	2627	RSDATNWGLSHLCFWFWFLRLSFLFS LPRLECNVTISAHCNLFCLLGSSNSPVSA SLVAGITGTRHHAQL/LLYFFFFLVKTRF HHVDQADLELLTSGDPPTSASQSAGITG VSHCAR/LSHLCFLPPCLLFY/CYFIYVML LCY*WSLFLVAQVGQVQWHDSSLQPLPP GFK*FSCLSLSSWEYRRSPHPANFFFFF FLRR/RSRFVAQVGQVQWCNLDLQPPPPS FKHFSASACRVAGITVACHHAWLIF/FL YF**RQGFTILARLVLS*PRDPPPSASQS AEITGVSHHAWPILFIYLRQSL/DSVAQA GVQWYNLGSLLQPPPGFKQFSLSS WDYRRVPPCPANFLCF**RQDFTMLARL VSIS*PHDLPASASQSAEITGVSHRAWPIF CIFI/CFFEMESRSVAQAGVQWRDLGSL QAPPPGFTPFSLSLPSSWDYRCPPPRPA NFCIFSRDGVSPWSLSPDLVICLPRPPKV LGLQA

5367	13418	A	6205	24	617	DPVSTKNTQISHMWWCTPVVPATQEAE AREFLENFLSPSTGFECSSLFFFFFFFLSQ GSHSVTQAGVQWCDHGSLOPQP\GRKP SSPLCLLSSWDNH/RPANFFYKTTVKSP E/FLQLAVVGCFA CARVYSAFQTEKPQH SSSVGLHRSSFEISAFSHFPI*VFVPWSP LQYEEPTLSFPPSSSIPHCPSSTSPND
5368	13419	A	6206	239	1789	ATAPGQIFFFFFFLWLSLTLSPRLECSDAI MAHCNLKLLGSRNPPTSAS*VAKDYST HQQAWLISYFFFIETGFRHVAKAGLKL TSSDPPAPASQSAGIKRVRHHVWPSFSY VKNHLFSRGLRALS YKLK*QMQLFFNFL SILSHDFVAVPSCHD\HLRSPETCH**CSV THLEGLQVHF*L*DVIPVLIQGVSLNSSSS SFLEESQ*DNILSREWGSHSNLSYSKVI M*HLTATSSCDELASASV*VLS*PL*LR LSR*SF*TFLWLLFRDRIHQIFCLFLKRWS L/DSVTQAGVQW/RNHGSLQPQTPGLGS DTESSFF*ARVSLCHPGLEVQWCNHGSL QASNS*AQVILPP*LPN*LRLQACTIMPG* FCF*ILVEMGLAMMPSLVSNS*AQ/CNH PVLASQSSGITGMRHCARLGRES*FDPLH *TVCPICNFFFLRRSFALVAQAGVQWR DLSSLQPLPLGFR*FSCLSLLSSWDYGH SLRSANF/CVFLVEMGVSPCWTGWS*TP DLR
5369	13420	A	6207	2	208	LEHALRPSSKMLLKCSQGGTQPEPPNRI KRASSLNFLNKSVEDPTQHGGVQVFLSA ALSAPAPWTSFH
5370	13421	A	6208	1	419	SAFSVAVTKKLPTGAACP KFKTKILMNE GGHYNASSGKFRICGVLGIYFHLHITL GNK\DLAIGLGAQRPSTASGPLMPNTGN HDVGSSTILALKQGDEVWLQIFYSEQN GLFYDPYWTDSLFTGFLIYADQDDPNEV
5371	13422	A	6209	756	966	
5372	13423	A	621	39	460	GVYLKLSINTVGKDKEKVRRHHHPITTQL QCGIQGHNLWVVTAAEIRSFHLSPPSRF RRFKSIFCHVTRSGKSMQMFTFPEKKN DFSGCPVRPRGRGRGEGAVRSAGRRG*A RAGAGPGGPGRGVPALGRVAPGLVPN
5373	13424	A	6210	24	365	PTEY/ENL/FPCIKEAF/VVEEWVKTAV L/WPAKQYPFVTPIEERILMEEGKAFFPSR STAKQKLDGNPVSPTPVIGLSPTPNKEE KQPDWPLEPTGHLDGARDTAGPSWLH HRF
5374	13425	A	6211	32	188	KIFFFFFFLPPQFKILFKRPTGLRVPKGGR RALGGSPKGAKKAWPTRRLPSFNGLYLE GSSNGASTESPGNFVPGKTLQPPGVELG RGRWTAQQQPSRPVALGA*KL
5375	13426	A	6212	122	339	EKGFWFCAQGGKNLPGGNSLEPSASGL KEIFGLNLLNNWE*RGGPKTPGNFWIWK KGGV*PLWPGWG*NPGL
5376	13427	C	6213	56	118	MKALPSSQSCGPTSVNSPFH*
5377	13428	C	6214	345	410	
5378	13429	C	6215	7	438	
5379	13430	A	6216	2	80	
5380	13431	A	6217	3743	4059	GCAVFFFFFFFLWLSLLPRLE/CSGTVSA HCNLHLLGSSSRAAASQVAGTTGMHH HARLIFVFLVEMGFHHVSNS*PQAIHPPQ RPKVLGIIGRDNRHLGLMEWSF
5381	13432	A	6218	3	402	DTMVHLTPVEKGAVTALWGKVNVDDEV GGEALGRLLVGYPWTQRFESFGDLSTP DAVMGNPKVKAHGKKVLGAFSDGLAH LDNLKGTATLSELHWDKLHVD*NFRL LG\NGLD*MLAHKFGKKISPQGGKLG



5382	13433	C	6219	295	618	MARKCSVAFSGGPGCTWDNLKGTFAHT EVSLHCDKAAPWPEELSGSWGNAWS CVLGPFTFGKRISTPPVAGLPNQENWLA WCWLNALGPTSNHLSLAFLAGPISN*
5383	13434	A	622	138	320	GFFQGAQKKRVHPKGPFGKSRF*KFFRA GPGGSIWNPHHLGGPGGPNCWPPGFQTP PNNPG
5384	13435	A	6220	2	337	IKKAL*HE*LREKKKSPIRTSQSSKAP*NL PRSSSSSESSNNYQLL*AHKLQKVKEMG KLETPNLPLLSQKVAEPLNQPIITSSKIET LIKKPYHPEKSYGHDEVTAKFSRA
5385	13436	A	6221	1	2349	
5386	13437	A	6222	2	1802	
5387	13438	A	6223	5175	5804	IANNKDALRKTWNPKFTLRSHFDGIRAL AFHPIEPVLITASEDHTLKMWNLQKTAP AKK*EYSTLTLEFYFK*HLSILLYSI
5388	13439	A	6224	3	115	HETDYHKQPWQGEISGIVSTESQ*WGLG GGEVKVKWE
5389	13440	A	6225	2	28	TIADRELRYSEDEGGRRRGE*REEEGEA ARRKRVAKQVGKCRANEERKTEERWGD REGRRERRSEMEVSGKERGHATSGREE KENTG*GPRAEI
5390	13441	A	6226	1	236	RTRGRTRGSTHAFVRQLMORNLDTGPI MAGHDNLQQLQKENSTPDSSLPETSNKEH ISPENMSLKTLRNSNP*DLYDEI
5391	13442	A	6227	3	178	LFGYLPK*VDNMSTKKPCTWIFTLALCIT ARTWKQPRCPLVGKWIRCSAEALGNRS LI
5392	13443	B	6228	1	1050	MVSISWPRDLPASASQSAGITGLIGALVL SVGIYAEVERQKYKTLES AFLAPAILILL GVVMFMVSEFIGVLASLRDNLVLLQAFM YILGICLIMELIGGVVALTFRNQQLLRQ QVLSHTLGCADLSDGPGSGPVKMFMGV PVIPAQPPELLASRLSRGYGLVLSWLEP RYEKMISGMYLGEIVRNILIDFTKKGFLF RGOISETLKTGRIFETKFLSQIESDRLALL QVRAILQQLGLNSTCDDSVLKVTCGVV SRRAAQLCGAGMAAVVDKIRENRGLDR LNVTVGVDGTLVYKLHPHFSRIMHQTVKE LSPKCNVSFLLSEDGSGKGAALITAVGV RLRTEASS*
5393	13444	A	6229	3	250	SLCQPGWSAVADSRLTASSISQFTPFSC SFPSSWDYRRLPPRAIFLYF**RRGFTVL GWSRSPDLVIRLSRPPKVLGLQV
5394	13445	A	623	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFFDSFGNLSSASAIMGN PKVKAHGKKVLTSLGDAIKHLDDLKGT AQLSELHCDKLHVDPENFKLLGNVLT LAIHFGKEFTPEVQASWQKMTGVASA LSSRYH
5395	13446	A	6230	135	466	GIDTILTLNQ*SLKTRQ*FTLIIF/IFFFL RWSL/DSVAQAGVQWRDLGSLQAPPRG FTPFSCLSLPSSWDYRRLPRANFFYF** RRGFTMLARMVVIS*PRDLPAEFL
5396	13447	A	6231	593	1030	KCNNSSLNMNEFKFNPFCKMKNSSLPL GLSAIKVSNKTNT*NMITI*ILWIIFFFFLI WSL/DSVAQAGAQWCHLGSQAPPPEFT PFSCSLPRSSWDYRHPRPA/NFFVFLVE RGFTVLARMVVIS*PRDLPALASQSLWII L
5397	13448	C	6232	17	145	MHRDLFFNIQFISSVYTSLYLLEKCILCKF SIKTLGLIHTMW*
5398	13449	A	6233	82	377	IPGLKRSLSLNLNSQSCATLPSYFFFFFF FFFFYFLERRDLAMLPRLFSSSPGLK*SLH LGFPEHWDYSHEPPSWLLFFIFNNRRVF LLNVKFYHMY

5399	13450	A	6234	281	1102	RMNIFPWGGWPLGHSQQATLTGPPGVC SPPNPRQNKGRPSLTWKSACGMFSICF FCSVTKTFLKLGPQRLKSSKTTYAT*DI LKRKVKLCECRPSFLPFFTAWKPLRICW GVAEEGLSSLKEGMLVDSLQPRKPRRC LPHNRLSTAPTFFDPESIPTDPVTLHPLCP KEQRDPPELPSLGEAPWR*SLPFLHSTPC SLKECETMKPHMCRSPCRGVLTPSATCA QWPDQGWGPVIPGAPFSDEVTVCSQLL LPEAPACSGNQCLSWFKK
5400	13451	A	6235	2	260	LSTQAGVQWCDHSSLQP*RLLSNWDH MHAPSCLAIYFF*ETTSYIAQSYLKHLG SSNPPTSASQGTAITGISHWARLDTSQFG H
5401	13452	A	6236	3	224	KSCPGTTPGNGAGASLEDLWWSAGRW GGTSKPCPLSAGCPLAFGPPARLTGASM PPLSALNG*ERRKRQPL
5402	13453	A	6237	3	307	EAWRMSWGPP*ER*PLPSP*GVCSSC/AP PLPSVSAGLGEPRPPDVEDMSSSDSDSD WDGGSR/PFTISTPRPRLGCLLHAVLFL ARW/PSLPSV*PRTPHCEH
5403	13454	A	6238	265	315	
5404	13455	A	6239	359	785	GNPSWSFPKAMDSPSLRELQQLLEGTE C/GDPCPEAW/PGMSWGPP*ER*PLPSP*G VCSSC/APPLPSVSAGLGEPRPPDVEDMS SSDSDSDWDGGSRLSPFLPHDHLGLAVF SMLCCFWPVGIAAFCLAQKVSCLCVGLG GDWA
5405	13456	A	624	60	548	APSPDAMGHFTEEDKATITSLWGKVNVE DAGGETLGRLLVVPWTQRFDSFGNLS SASAIMGNPKVKAHGKKVLTSLGRCHK STWDDLKGTFAQLSELHCGQACMWDW ENFKLLGNVLVTVAIPFSGKEFHPWR LAGFPGQKDG*LGVASALVPSRYH
5406	13457	A	6240	3	277	
5407	13458	A	6241	8	370	RLGEEKAATGVVVHGLDCFFSPRAPTRP GSRLSQDPPGCEI*NPSWSFPKAMDSPSL RELQQLLEGTECEDPCPEAWAGIELGSP FKRDSLRCRVPEGFCSSCSPPLPSVSAGLG GTKAP
5408	13459	A	6242	1	351	KTGSHSVAEAGVQWHHPSSL*PQPPGFK QSPHLRFPKCWDHRRTPPCPGNFFDLR* RWGSHHVAQAGLELLNSRDPPASTSQSA RITAMSHRAPVSTFLSTSTSCPVLSTFH RSLI
5409	13460	A	6243	2	1036	SHTLSYLVKELEVRMDLKAKMPDDHAR KILLSRINNYTIPEEEIGSFLFHANKPNAP JWLILNEAGLYWRAVGNSTFAIACLQRA LNLAPLQYQDVPLVNLANLLIHYGLHLD ATKLLLQALAINSEPLDLF*AGEMAYL ALKNISGALEAFRQALKLTTKCEPENSL KLIRCMQIYPFLYNITSSVCSGNCREKTL DNSHDKQKYFDNSQSLDAAEEEPSEGT DEDPAFSVENSGRSDALRLESTVDES HGSDEMENSDETKMSEILALVDEFQQA WPLEGFGGALEMKGRRSRLTRNTGAEE RSPGWKWPETLAMETAEVKMMKQQNG LHSRSNV
5410	13461	A	6244	31	372	KRVRLGWVAHTYNPSTLGGQGRIT*TQ EALTSLDNIVRTHLYKKFYKLAQVWAC GQTCLEGGKEGYVNMNSNVHTGGQGDPC GLLGSLSLGRIFGCTWDSYRHAAMIFG KLK
5411	13462	A	6245	816	929	DRVILLYCPGWNAV*TWLTVASASSAQ AILLPQPCLA
5412	13463	A	6246	3	119	RRGLAVLPRVLNSWPQVIFLPHAPKVL GL*AQL

5413	13464	A	6247	2	285	RSVLCECRNSVVSQIWGNRLYLVEMYPI MKVEKWAGCCGSCL*SQHFGRLRGVDR LRSGVQGPQGHDETPSLKMQKWAGV WWWLPVVPACSL
5414	13465	A	6248	3	437	RPRRLFLLRWSFALVAQAGVQWHDLS PQPPPGFK*FLCLSLPSS*DYRNVPPHPA NFVFLVETGFCHVGQAGF*LPTSGDLSA WASQSAGITGVSHLARQAASDFNSRDRR GSQIPSNSQDANQNMEMLNKLKDFPIVT CNT
5415	13466	A	6249	3	459	VLITANLIPAKQCFDCNLFSTFSSVTTEAF VFLCLLVTCVTCMNFLFIHFVHFFSRRVV FFLPILGAPCKMGILFMIQTFPLSLNIFQF GSKCIQQYRILNFYAM*SVTLFLWPVYK YSFSTISRPTLYNRSTLLPRKDRWKGAR QQTPO
5416	13467	A	625	32	452	
5417	13468	A	6250	2	342	FKRQSLTLTPREYSGTHIAHYNLKLCCS NPPSSASQEAGTTGTYHDT*LIF*FFVETG SPYVAHAGLELPVSSNPPTSASQSGRIID MSHHIRKTALLSGKEWTRPPTHLL
5418	13469	A	6251	2	207	ARGDPESTVAEAFPTIPHCSMATLIGLPI KVKLLRSLPQSFKVSWS*APGVPRGIEGL LLRMGTGRA
5419	13470	A	6252	1	90	RWLIPISPAL*EAEAGRILLETRSLRPAWS T
5420	13471	A	6253	3	290	RQGFPLCNHKGTVTADLQPLPPGLK*ISH LSLLSSWNYRCTPPHPADF*FFVERRSHY VA*ACLELLCSSDLPALISQRVGITGMST TPGPICLL
5421	13472	A	6254	2	378	AGFTHAVIILNHPGQ*SAGYAPVLDCHT AHIACKHAELNEQIDRRSAKKLEHGPNF LNSGDAIIDDMDTVKPMCVESFSHYSPF GRFADRDMRHTVAASVIMALDKKAAV AGKGSNSGQKAHKAK
5422	13473	A	6255	3	735	NASGTTLEALDCILPPTPTDKALRLPL QDVYKIGGIGTVPVGRVETGVLPKGMV VTFAPDNVTTEV*SV*LSHEALSREALPG DN/VGAFNVKNVSVKDVRRGNVAGDSK NDPPQEAAGFTAHHIILNHPGQINAGYA PVLDCHTAHIACKYAELEKEIDRRSGKK LEDGPKFLKSGDAIIVDMVPGKPMCE SFSDYPPLGRFAVRDMRQTVAVGVKAV DKKVAAGACKVTKSAQKAHKAK
5423	13474	A	6256	328	621	PVFLFCFVLFETESRSVAQAGVQWRDLG SLQALPPGSTPFSCLSLPGGWDYRCPPPC SANFFCIFSRDRVSPC*PGWSQFPDLIR RARPLFLKNRKL
5424	13475	A	6257	1	1245	
5425	13476	A	6258	1	248	FPDQPIHIVYVPSHLHHMLFELFKV*YFTI IEILPFKKGLTSYIFISFIIRHKTEASISFPK NASSPPKRKKLYSQCLTKYM
5426	13477	A	6259	1	1456	
5427	13478	A	626	3	570	HSLSGTSEVINKLLVQTAMGHFTEEDKA TITSLWGKVNVEDAGGETLGRLLVVYP WTQRFFDASFGNLSSASAIMGNPKVKAH GKKVLTSLGDAIKHLLDLKGTFACLSEL HCDKLHVDPENFKLLG/NMLLVTVLGN PIFGKEFHPWRLQASWQKQKMAEDGD CSWPVPCSSRLPLSLAHDGRVFQ
5428	13479	C	6260	63	302	MIYKEKRESVSKEDLARATLVTTNNIGS VARMCAVNEKINRVFVGNFLRVNTLS MKLLGICTGLLVKRSTKSIVSXT*

5429	13480	A	6261	1	2063	MGYGVTAFFIWAFSRVLSSCPASKKNEL MLTAMDICALSLRCATEDPGVAMGRRP ACCYRYCKNKPYPKSRFCRGVPAKIRI FDLGRKKAKVDEFPLCGHMSDEYEQL SSEALEAARICANKYMKSCGKDGFIH VRLHSFHVIRINKMLSCAFRAHASKCFQ NFGNMIYKEKRESVSKEDLARATLVIT NNIGSVARMCVNEKINRVVFGNFLR VNTLSMKLLAYALDYWSKGQKALFLE HEVCVETVNDGQFHVELVTNLQTLNL VVDKGTTPKSLGKLQKQAGGINSPLYLG AFPWFMDIGGTLVKLSYFEPIDITABEE QEEVESLSIRKYLTNSVAYGSTGIRDVH LELKDLTLFGRRGNLHFIRFPTQDLPTFIQ MGRDKNFSTLQTVLCATGGGAYKFEKD FRTIGNLHLHKLDELCLVKGLLYIDSVS FNGQAECCYFANASEPERCQKMPFNLD DPYPLL VVNIGSGVSILAVHSDNYKRV TGTSLLTGCESEFEALEMASKGDSTQAD KLVRDIYGGDYERFGLPGWAVASSFGN MIYKEKRESVSKEDLARATLVITNNIGS VARMCVNEKINRVVFGNFLRVNTLS MKLLAYALDYWSKGQKALFLEHEFGY NIGVIS/SS*DSHTGLSQLHFEREVRRLSL* GFAHVPLALVCGHLPQW
5430	13481	A	6262	2	527	ILAVHSDNYKRVGTGSLGGGTFGLCS LLTGCESEFEALEMASKGDSTQADKLVR DIYGGDYERFGLPGWAVASSFGNMIYKE KRESVSKEDLARATLVITNNIGSVARM CAVNE*INRVVFGNFLRVNTLSMKLLA YALDYWSKGQKALFLEHEGYFGAVGA LLGLPNFS
5431	13482	A	6263	2	186	RNGLRYROPI*CLIAENFPGLARDIDIWK LETQGVNPNRNLKRSSQRQMIVKLSKV NREF
5432	13483	A	6264	3	180	EMGKGIDSLFNEIAENFPGLARDIDIWK LETQGVNPNRNLKRSSQRQMIVRLS*VKI
5433	13484	A	6265	3	474	GTDVGKVKAHALSHKKLCLKMTQVTT QWLEILQRLCLHDQLSVQHRGLVIAYNL LAADAELAKKLVESELLEILTVVGKQEP DEKKAEEVHTARECLIKCMDYGFIPVS *TATLRDAGSGPVLCRVLGWLSPGESG HLGIIAVTMKSQYKGT
5434	13485	A	6266	2	651	HSEGRQRKRVRQKTDTVREKGRERER QTGRE*DRRQTQ*DRQGRERDKDR DRDREKERDRQTEKETQRRERQRTERN RQREGPSVAIQCLFFHFLFFSFFLSCIS VCMDCMYVCMYVCMYVCMYVCMYVCMYRI YLETGSHSVAQCSAVVRSGLGHCSRLRP GSSHSSPPASRVAGVTGACPTAPDSISYF QVRDGGFTTLARAGLELLTSG
5435	13486	A	6267	56	901	EEIAVSILLPSALPAPATVGPVALVDGL GGWLCQCQAREQPAE*QPGVLVPPGGR ERQGGCSFRGQSLALLSSADFTGPGYK PHLSKENLVKIIQLDKKPQEGVFPTLGV SMRIKGRDCRLSSIRSPVLSPADRFSMC FPTVKDSVQRTSASAPSSLMIAAEEKC HSSE*PTASGSPQHQTHPGATGPAPLQ VETQYTRLSSGLAGPRTLSNESECSKPTL EPKAFWVYNKAKFCLCYLVVSPQLIPRHH GSDMGSHTFEIPLLARKGCPRAVW
5436	13487	A	6268	132	378	YHSQRCRRGVIVLSKSKARSRRSRMKQ YKNETVKDKGYHKNVSMISLK*LEKP VRPLELYYYYYYYYYYYYYYQVLS
5437	13488	A	6269	3	397	QRDLTRHISLKSCTGVHLPENLNSARRI RNISGHRKSETEKESGL*PALRQILNASW RKVIWEQVIQLVS*TTRELRRG*LSVGID DVGVEVTVLVVVFLCSSTIVALLCFSYV SCLCPCWCLLSLCSF

5438	13489	A	627	62	281	SGVYFSFVQRLKTLTQHLILIFGFLP*EYP TLTTFEHEIISKHPFLTRKWDADVD RKHVWSKSDLCWVI
5439	13490	A	6270	2	250	KKARRSGVILAHCSLELPGSSGSLFSPA SSWDYRSAPPPSNIFLLF*GRVLTMLP RLASNSWAQAILLRWPPKVLGLQV
5440	13491	A	6271	118	184	QKEKL*KMGAVLKSCLNASHILRNANKC NNRRKSYQPFSSFMNIDAKVLNKI
5441	13492	A	6272	798	1096	KIMLEHLYSFFEASRSVIQAGVQWRDL CSLQAPPPGFTPFSCSLQSSWDYRHLPP HPTNFFCIFSREVSFPC*PGWSRSPDVVIC LPWPPKVLGLQA
5442	13493	A	6273	3	163	HASAHASGHASGGAEGKQAEVANQDST EDLPAENGEAKTDDSPASDEAGENDA*S DEAGENDA
5443	13494	A	6274	3	330	INIRFYLSQSIKASARSTQG*VSSCTKLQIF FFFFFEMESCSVTQAGVQWRNLSSLQPL PPGFKQFCSLSPSS*DYRCPPRPANFCI FSRDGVSPC*PGWSQTPDLR
5444	13495	A	6275	167	362	SPYGKSNLLEPSASRFKQFFCLGPLNNW DYRLFPPFPGNFGVFKNRVFFWPSLV* TPDSRGIP
5445	13496	A	6276	2	354	
5446	13497	A	6277	196	321	EQTAKCPGAHEQVKN*NN*GHLLSPA HFSHLQLKQFDKMI
5447	13498	A	6278	1	923	MERWRDLALVTGASGGIGAARALV QQGLKVVCARTVGNIEELAAECKSAG YPGTLPYRCDLSNEEDILSMFSAIRSQHS AVDICINNAGLARPDTLLSGSTSGWKDM FNVNVLALSICTREAYQVHEGSGMWT GHIN*HQ*ACLATRVLPSTHVFYSATK YAVTALTEGLRQELREAQTHIRATWQLR REEAAAAGYQAAITVKLGFCGLHPLPSTS PRPGKAQPLRRPSLLAQCSIPGVVETQFA FKLHDKDPEKAAATYEQMKCLKPEDVA EAVIYVLSTPAHIQIGDIQMRPTEQVTY
5448	13499	A	6279	28	311	AGVQWCRLSSMQPPRRRLKLSFHLSPS SWDYGCTPPIARLIFVETGFHHVA*AGL KLLSLSNLPT*ASQSAGITGMNHQAQPMI SIFKSSSFG
5449	13500	A	628	1	395	
5450	13501	A	6280	1	304	
5451	13502	A	6281	62	299	LFFSPQTHPTQTAFLLSSVDLHHCYSQM MLPESVAIVCSPKFQE*V*RAWFWVFQ GSREESLRGKGLYSCGLVLCKIP
5452	13503	A	6282	110	276	QSETLSQKKKKKKKNW/YKCGGTHL/LI QATREAEALLQTGVRGCSEPRLLHSTP AW
5453	13504	A	6283	380	507	SMNPGSPVCVMLITRIP/FCIAHAHLRCC MVL*LHHFHFRLSIC
5454	13505	A	6284	14	235	DRVSLCHPGGGGSELRSCHCNLAWVT EQNFVSKQKEKKR*LLYT*LVLPMSDGL HVAQDSFECSSTQICKLS
5455	13506	A	6285	494	789	DHRFAPSHLADFYFFCRDGVVQ*NDLDS WQA*PPGLKDHLPS*DRFAPSHLADFY YFFCRDGVVQAGLKLSSSNVPALASQS AGIIGVNHCTQPTLCLFKMMYLFNFCHH WVLHLPakeIPEPVFKLPRVFYTPFNCLS K
5456	13507	A	6286	3	107	HIQLCR*LIHTHTHTHTHTHTQFYLFK** HSAC
5457	13508	A	6287	2	214	VDFFFFFFKLDRVSQCCPSWKFSG*WL FTRTDHRTLPTQPGIKQSSCLSFPSRWDY KCVFQHVSSLSPS
5458	13509	A	6288	3	213	LLKQNKH*SRILYPTKLSFMNEREIKSFS DKHMLREFVTRPDLQEMQKGVNLNKT

						KGWHAPE*NLLKA
5459	13510	A	6289	1120	1668	SGDALFPLFFLFNFRVTKLRSSLWMHLG KQLPEPPNSRPTVETQKGS*DT/PPR*SP *ACFHNSLFPRFG*PTLI*QEHLTTCLL/PG DFFFFFF*DRVLPYCYPGWEYSAKTMAHG SPNLE*SSHLSLPSSWDHRRMPLCLAN* KKKKKFQRHGLMLPKLVLSWAQVIV LLWPPKVLGLQG
5460	13511	A	629	27	121	APTPDAMGHLTYED*ATITSLWCKVNVD DSG
5461	13512	A	6290	186	297	PNLG*LNPPPPRLKHFSCGLPSSWNKKA IACHGAK
5462	13513	A	6291	59	132	
5463	13514	A	6292	1	335	
5464	13515	A	6293	1	457	FETRAGSIAQAGVQWCHLGLLQPPPPGL KRSSCPQP*VTWDYRRTPSSPG*FLYFL* KTGCHHVAPGCKLVSSDLPFLASQSA GITDRHQPPCLGPKLWTLRKLGDIFLW FHDNLGYTLGRNTHEFSTSRVITVFRS FKHSTPDFSG
5465	13516	A	6294	76	343	YTFSSLYFFTFPLDNSKPKIFFFFFFFF FFFKETWIVLIGLNAGYM*TPQK*EALL GNTITHVTRLAKHSVLLT*IE*VHDSTF
5466	13517	A	6295	362	561	LEHNIFLSFETDSRSVAQAGLQWCNLSL QLLPPGFKRFSCISLVS*KAFCGPPQLLN FTPIVQY
5467	13518	A	6296	3	349	FFLETEPSCSVAQVGVPDLGSLQPHL PRFK*FSCLSLLSSWDYRHAPPHSANLYI FSRDGVSPHWPGRSQTPDLRRPTLLSLPK RLDYSVSHRAQPWPYFRNKEEARPNPFF S
5468	13519	A	6297	42	266	
5469	13520	A	6298	106	860	RRRLPSVAIMIIYRDLISHDEMFSDIYKI REIADGLCWEVEGKMVSRTGENDDSL IGGNASAEPAEGEGTEQHS*SLVVDHC HRTYHLAVKASFTKEAYKKYIKDYMT INQQGNLKQQRPERSKTFY*QGAVEQIK HILA*FQKTTQSFMEGNMNPDMVALL DYRED/GVVTPYMIFFKDLRNGKNVKN CGQLFWDLSPVINWASWSSTQHGLK TKWGLMVIFELHFILEDWGFILEVEAIVF
5470	13521	A	6299	10	281	SRSFFLSFFLFVEMECHSVAKSGMQWRN IGSLQPPPGFNQFSFLSLPNSWDYRCLP LHLANFCIISRDKVSPCWSAWFSRST*PT PDLK
5471	13522	A	63	547	644	IPGRPWL*S*PVILRLQPQATSGG*MVR ASL
5472	13523	A	630	128	379	FNSRPSLRIGLFCITCSLWDCFWCCWIHA SLYSVIRSLLSFGTLVCFSLFCAFLSFSF *VVLFFLLFISSGFFSFVFLVFLF
5473	13524	A	6300	3	111	FIKIHGLPMLPRLV*NSWPQAILLPWPPK VLGLQA
5474	13525	A	6301	2530	4923	TVPHH/AFILFFF/CFFERESYSAQTGVQ WHNLGSLQPLPPGFK*FSCLSLPSCWDC GHGGVSL
5475	13526	A	6302	2	300	GSFALVAQAGVQWDLGSQQPPPPGPK QFSCLSLLSSWDYRRALPWLANFVFLVE TGLHHVGQAGL*LLTSSDPPALASQSAGI TGVGLASTYFIEVI
5476	13527	A	6303	1	453	
5477	13528	A	6304	305	432	FLHFK*MMNNMGGDEDVDLPEVDGAD DVSLKILFSVYFHTIK
5478	13529	A	6305	3	306	
5479	13530	A	6306	1	122	TRPEFPGRTPSQKG*GKKEEPET*KER TGPSEKGETKA

5480	13531	A	6307	2	392	CSCSAEAASSGGAAPVRCFTFCFTDIVI MPKGKSPENTEGKDGSKVTKQEPTRRS ARLSAKPAPPKPEPKPRKTSAK\KEPGAK ISRGAKGKKEEKQEAGKEGTA\PS\EHGE TKA\EEA\QKTESVDNEGE
5481	13532	A	6308	3	426	AGNSSIQGHGGWTLRHSLSFLSLLPFSR GPQCMGAVQPLVLKQPRDASLRGCLLG YDSTATGLY*ILCNLRRHPGVMPSCGAR VLRDHNPEIDIEWLCSCLLEVLSGSLST PGLTLADQAGHSGGIMPLEGSLRSDCC
5482	13533	A	6309	3	372	HAGLGAHPLHHPVIQEQEFLPAPRGFGY RSEVD*IRIPAESTGQNSQCQLRK*KDDSD YFHCGYFCGCVCTCRGRLQSSTSHQCCA AL*LLLVPCLTMLRCISSLIYT*NLKTVHS VRLNFIYN
5483	13534	A	631	1	371	RQGPQGGRAAPRPPMPGPPLSSARHALP LGSWESWCCCLIPADRPWDRGQHWQL EMADTRSVHETMMQASRKEIQSLPKNG SFPSTNEMRLRYSSYNQASE*P*KLSRP GLWDPIGRAKWD
5484	13535	A	6310	1	230	SGRPFLFFQGKERVYFIPVVVLFYTVVV Q*LRKNVVRWQKTMPPRSWLMQLGH TEEGPGYPLLGETETKLFRTA
5485	13536	A	6311	2	100	RRPFFFFFFFASCI*NLISPNVQLSNFTCILR N
5486	13537	A	6312	2	192	
5487	13538	A	6313	1	451	
5488	13539	A	6314	231	1335	
5489	13540	A	6315	636	852	FRGSGPRDKTPNCLISLLFSWQPHYFLQR FLYAKLLGLLAELRSINEAYGYIYQHIQG LSAMMLLL*EICS
5490	13541	A	6316	1	690	
5491	13542	A	6317	3	302	GFRGCKPOALAASTWC*LCSCTEVKN*G LGTSTWISEVRKHLVDVQAEVCCKGGA LVDNLCOGSTEGKCGVRAPTQSPQWGT AWWSYQKRATILQIPEW
5492	13543	A	6318	1919	2245	PMQRSP*RT*WS*KPWQENYVMRAQDS VADSINWKKG*QRLKJK*MK*SKKRSLE KKE*KEMNKASKKYGT*MDQIYVGLV YLKVTGRMEPSWKTLCRILSRRTSPT
5493	13544	C	6319	395	1096	
5494	13545	A	632	323	585	SQHFGRTKPEDSLRPGI*DQTGQPRETLF LQNLKKKLAGHGGACLSQQLGRLRWE DRLISGV*GCSDT*LYHCTPAWVTEQDP VSE
5495	13546	A	6320	304	475	PRQTGSGVDLRQTPTDLQLRV*LLGKI TNRKGHLHQNPICTSPPSKTKGKDQIYV
5496	13547	A	6321	224	1767	HCLSNVSAGLHPFTSYCLLHEKKFKAAV LSLGECCDGDADGADGGDGSMAKSGP LAAGLLEFAGGPLQTLFAWVSAEAAE QPILLNSKCCCLIVPLEASSWRGTRPCEVI VSEAGASIYSVSPEANKEMPGLDPNLRS AVSIARRVQDPLAELVKIEPKHIGVGMV QHDVSQTLKATLDSVVEECVSFVGVDI NICSEVLLRHIAGLNANRAKNIIHREKN GPFINREQLKKVKGLGPKSFQCCWAFI RNQPGLYPNVLQSANLKLQAKFQGVAV TSSADVEVTNEKQGKKKSKTAVNVLLK PNPLDQTCIHPESYDIAMRFLSSIGGTYE VGKPEMQKINSFLEKEGMEKIAERLQT TVHTLQVHHRWVFSQPEGDFRDTF**T WIFKEEGIVCLEDLQIGTVLTGKVENATL FGIFVDIGVGKSLPIRNVTEAKLSKTKK RRSLGLGPGERVEVQVLNIDIPRSRITLD LIQGVMSIPRRPDADFISFPQIDKDKSVV CKL

5497	13548	A	6322	2	64	AFRFSSSVRIHERSHTGEKPYECKQCGK AFISSSHFRLHERTHMGKEV*EYKQHSE AFGCSSSF*HKRVYTGQKLCEYKHCSK ALD*SSFF*ARKNSHW*ETL
5498	13549	A	6323	168	499	VCSSAKQ*QTCFSLVSPTM*NLKEFLNN IKFPQQDGTSQLVSGENVDIRKIVGVS GVGSYLGSKIFRLGAVAHTCNPSTLGGR GGQITRSGDGDHPGQQGETPSLLKI
5499	13550	A	6324	165	548	SPSQHSLVPSTPLPGSVLWIGGCLPCAA EGSRSSQGDGWLRRSSVDLAVGDGEGK EVPRLALGCDLARDGSRTLSPLGPCPKP LGQRWES*ELRKVPGLAPDLSVESAPRS WEAPECOQMLQLSP
5500	13551	A	6325	18	225	TLGLK*SSHLSLLSSWDYRCMPPHLAN* NFCLFVF*RWGLAVLPRLLNSWPSAILP PWPLKVLELQV
5501	13552	A	6326	724	900	MTSFSDFQSFQNRGSTIVTIAHFWSRKY LSDKECS*NACVVFHISI*KWANTKTFIG D
5502	13553	A	6327	15	185	VPFENPWVDPRVRPRVRFSTGTFRCCA H*IS*LLQSGSSQASLCRYNEESQKHAAL SLSKEHNPTQYEERMRIQKAGGNVR*PR QACVIMRRVKNMQP
5503	13554	A	6328	199	544	PARLGLEEGRYLITGRGWVWVLTVPVIPA FWAEAVARSQGGQKIETILANMVKPHLY* KYKKKLGGGGGYL*S*LLGRLRQENG VNLGGGACSEPRSCHCTPAWATEQDSV SKNKK
5504	13555	A	6329	837	1096	
5505	13556	A	633	1	231	
5506	13557	A	6330	454	526	
5507	13558	A	6331	258	488	NTVSTRKYKKLARRSGGCL*SOLLGRLR QENDVNPGGGACSEPRSRHCTPAWATE RDSVSKKKKKKCFQSSILK
5508	13559	A	6332	3001	3080	
5509	13560	A	6333	6181	6292	
5510	13561	A	6334	3	222	ASVTACRLNCQGCSPCQPFPCPHLAAPL P*VPNPQLETFFP*ARTQRIPLPSG*PGTPS PKPTNHIPLTDPL
5511	13562	A	6335	2	227	FFETESRSLTQAGMQWPNLGSLOPPRPG FKQFSLSLPSRWDHRHMPGLANFCIFS RDGVSPY*SGWS*TPDLR
5512	13563	A	6336	2	218	TWRLAVAQAGVQWRNLSSLQPLPPGFK *SSCLSLPSSWEYRLLPPRPANFYIFSRDR VSPCWPGWSQTPDLR
5513	13564	A	6337	31	165	GSHTVTQAGMQ*SNHGSLLQLYPLSLRRF SYLNLPSWDQRSNKEG
5514	13565	A	6338	122	376	KMGPLSSSSLPEAECDPRAATLGMNKM LHSHWVSSIAFVDPGGMG*KAASGPDFET GQAEARLSPPPSLQESSVWPGDFPHQIC
5515	13566	A	6339	3	268	GRVAVRKEKGSFWLVVFNWLSDLNWPL PPLPGELA*TLKSSLRPAAPRPPPPQT PSPTPRSLAVSSEGWRLLSMTLESDDL DL
5516	13567	A	634	1	686	ARAGLGFSCGFGVPDSGIGGAMSSFEGQ MAEYPTISIDRFDRNLRARAYFLSHCH KDHMKGLRAPTLKRRLECSLKVYLY*SP VTKEVLLTSPKYRFFWKRIISIEIETPTQIS LVDEASGEKEIVTLLPAGHCPGSMVF LFQGNNGTVLYTGDFRLAQGEARMEL LHSGGRVKDIQSVYLDTTFCDFRIFYQIPS REECLSGVLELVPKLDHSEVPCCVAEL Q
5517	13568	A	6340	2	218	IYTHIH*IDPMFSL*GHMEGEVWGLATHP YLPICATVSDDKTLRIWDLSPSHCMLAV RKLKKGKRLSHLNV



5518	13569	A	6341	1	5748	MPLKLQNCALHPERVLVATGQVGKEP YICWDSYTVQTISVLKDVHTHGIACLAFL DLDGQCSVKAVIDNARRNECGYIPVKLY LQKHSFSLICLPFYSLDFLDINQRLVSVG LDSKNAVCVWDWKRGKMLSMAPGHTD RFWSLCGNALTPKRGVFGKTGDLQTILC LACARDELTYSGALNGDIYVWKGINLIR TIQGAHAAGIFSMNACEEGFATGGRDGC IRLWDLTFKPITVIDLRETDQGYKGLSVR SV
5519	13570	A	6342	2	252	PPE*LGPNCGQGPPTPLPKFW*ILSKKNG GSPPIIGPGPILKPP*PLRWIPPCPLPSPKCL RLPGHKPSAPQPEN
5520	13571	A	6343	289	395	SRICPHRDTRKEYNSYTI AFLINLLKFAEL DCIVYFRLNDN*M*IFRCSTIFYNPALAF HILRKPTTSFF*GRFLLSEMPCLMLLLII*I PNYLIQIIKRSI
5521	13572	A	6344	262	389	PQVTFSIASRYATILL*FF*PCLVFYSLPN QFYVQGKLANA
5522	13573	A	6345	1	103	QSFTYCFESF*NLSVFLYCLIYRITN*VYY LYVE
5523	13574	A	6346	7	156	LFSFHVSGTMAHTCNPSTLTG*GRIT*GL EFKTSLGNTVRSHRYRKKKIA
5524	13575	A	6347	94	469	NCTYVIKVVYNLIRHMYTPITAIKIISTRFKI YWYSLIFS*ICIHIFETRSLTPAQAGVWC HDHSSLQPLPPGLR*SSYLSLSSSWDYRH TPPCSANLCVCVCRDRRVSPPYCWLLN ILNVCII
5525	13576	A	6348	1	226	FFEMESHSVTQAGVQWPDLSLQPLPPG FK*FFCLSPSSWDYRHTPPHAYFCIFSR NGVSPCWPGWPRTPDPR
5526	13577	A	6349	3	308	KDEKGEEDGKEDKNGNEKGEDAKEND DGKEKGDKKEGKDVKVEDEKEREDG KEDEGGNEEEAGKEKEDLKEEEEGKEED EIKEDDGKKEEPSIV*NCPM
5527	13578	A	635	52	264	GLLVGVGAAAVMPGIVELPTLEELKVDE VNISSAALKDACHDYGDEWDKPNVDIM L**LEQLHPSMGQAL
5528	13579	A	6350	1	239	MDGGTEKPFACPV*CTKRYKNVNGIK YHAKNGHRTQIRVRKPFKCRGKSYKT AQGLRHHTINFHPPVSAEIRKMQQ
5529	13580	A	6351	219	688	RRMHAYVSLDPLERPPFFFFLFFFFFFF LRRSFALVAQAGVHWRDLGSPQPPPRF K*FSCLSLPSSWNYRHAPPRANFVFLVE TGLQLPTSGDLPASASQSVGITGVSHCA WPGNWLLKETRCGSSVGRQITGPITPDA WVDPGIPDRYLQA
5530	13581	A	6352	3251	3700	KWPYWLKEESSKLLHHQETS*HSNLGN* ASGLRTLPRAEQKE*GMQTSGR*TR* KEALFSITTDQRRPAVGSSSLPAGHLCS QORRAFTDLRGEDVLADWSMGYGP RRGPRIPTLVGRGAHSMATTTTDPHRVL PAYHQCSPCI
5531	13582	A	6353	3	347	DAWEQTQDTELVETRPAGDGTQKWAA VVVPSGEEQRYTCHVQHEGLPQPLILRW EQSPQPTIPVIGIVAGLVVLGAVVTGAVV AAVMWRKKSSDRNRGSYSQAAV*DSFL VWD
5532	13583	A	6354	3	174	

5533	13584	B	6355	10	720	MAPRTLVLGALALTQTWAGSQSMR YFSTSVSRPGRGEPRFIAVGYVDDTQFV RFDSDAASQRMPEPRAPWIEQEGPEYWD GETRKVKAHSQTDRENLRALRYYNQSE AGSHTLQMMFGCDVGS DGRFLRGYHQ YAYDGKDYIALKEDLRSWTAADMAAQI TKRKWEAAHVAEQRAYLEGTCVDGL RRYLENGKETLQRTDPPKTHMTHHPISD HEATLRCWALGFYPCGDHT*
5534	13585	A	6356	3	223	
5535	13586	A	6357	1	179	RSQVIRHQRIPTGQKSYKCHKC/GQGFSL RSLLAHQKIHF*DN*CTGNEYSKPSSIN CH
5536	13587	A	6358	38	294	LHLMQNRRLHTGDKLHKYDDCAGKAFT SHSHLRHQRIHTGQKSYKCHQCGKVFS LRSLLAEYQKIYF*DNSSECNEYSKPSSIN
5537	13588	A	6359	2	244	
5538	13589	A	636	1	380	KHSVCGRARASCSSFASVFLISKMVRE QYTTATEGICIERPENQYVYKIGIYGWRK RCLYLVLGLLLMLVVNITLTIWLNVTW VSSTSTAPHRV*H*NSLCAETQLQLRLPK RGRHVNFEPY
5539	13590	A	6360	339	1079	ILSLPLPLLAGGTDIISCFMGHNFSLPVYK GEIQARNLGMAVEAWNEE*KAGWGEGS ELACTKPIPCQPTHFWNDENGKNKYRKA YFSKFPSIWAHGDY*RINPKTGGIVMLGR SDGTLNPNGVRFSGSEIYNIVESFQEVED SLCVPQYNKYREERVILFLKMASGHAFQ PDLVKRIRDAJRMGLSARHVPSLILETKG IPYTLNGKKVEVAVKQIIAGKAVEQGGA FSNPETLDLYRDIPELQGF
5540	13591	A	6361	1	1047	MVSISWPRDLPASASQSAGITGLIGALVL SVGIYAEVER/HEI*NP*KCLPGSSHHPHP PGRRHVHGLLHWCAGVPP*QPPELLASL RLSRGYGLVLSWLEPRYEKMISGMYLG EIVRNILIDFTKKGFLFRGQISETLKTRGIF ETKFLSQIESDRLALLQVRAILQQLGLNS TCDDSLVKTVCGVVSRRAAQLCGAGM AAVVDKIRENRGLDRLNVTVGVDGTLTY KLHPHFSRIMHQTVKELSPKCNVSFLLSE DGSGKGAALITAVGVRLRTEASS
5541	13592	A	6362	2	55	FFLRRSFTLVAQAGVQWRDLGSLQPPPL RFR*FSCSLPSSWDYRCLPPLLANFLHF QQRFSFTILARLLVNS*PRDLPASASQS AGITGMSHHACPI*FFFETEFHSCCPGW SAVA
5542	13593	A	6363	167	293	VVKLLGILLNQMKTKMNFDFLTVM QKMSEKDTKEEILKSSQFHHHQA*KLF DDDETGKISGFL
5543	13594	A	6364	3	226	FLR*SLAVNQAGVQGRHLRSLQPLPPRF KLFSLLYLPSSWDYSHAPLPANFCIFSR NDVSPCWPGRSQTPDLK
5544	13595	A	6365	1	648	
5545	13596	A	6366	26	612	VGAGGRGWRFAAAVRRAAGGGLRPGP APGPRAGGGGPRGAHLALLRRAGALRA GKEYGKADARWVYFDPTTVSVEILAVAL DVSLALFLIYAIVKEKYRHFQITLCVC ELYGCWMTFLPEWAHPEAPNLQQPATG WLYWLGFLLFFF*RCVGLIPRNWLLWA VHGPTSRKWHQKGNQFQWKEVFSGTF QNP
5546	13597	A	6367	3	292	TPWLRDFHDPIVEVEVSVPGEPLLSAP GLPEPRAGHSVPSGLSVVAFPSFSDNVP GSLEHLLVLHFGGDVSLRLPLCLPI*ETF MIPLSRLRCPCSRVSFSPSQHQAQCLSLGL VILSPVASVWLLFHRFLLTMSQVPWSIFL FSISPGATCPSCALCAFLSRSEELRSHLCH R

5547	13598	A	6368	237	1202	
5548	13599	A	6369	2	58	PRVRCFIYTGKAPNLDKMADDLLAAAD KVR*EGSKPRQNG
5549	13600	A	637	23	360	LCQSQATLLSIFSQEYQKHIKRTTHAKHHT SEAIESYYQRYLNGVVKNGAAPVLLDLA NEVDYAPSLMARLILERFLQEHEETSPFK GIINMMLRYPSQIPDGALAY*VYHGK
5550	13601	A	6370	1	1136	MSSGPVAESWCYTQVVHFLFNCFLFFYQ QIKVVKFSYMWTTNNFSFCREEMGEVIK SSTFSSGANDKLKWCLRVNPKGLDEESK DYLSTYLLLVSCPKSEVRAKFKFSILNAK GEETKAMESQRYAYRFVQQKDWGFKKFI RRDFLLDEANGLLPDDKLTLCFVSVVQ DSVNISGQNTMNMVKVPECRLADELGG LSENSRFTDCCLCVAGQEFQAHKAILAA RSPVFSAMFEHEMEESKKNRVEINDVEP EVFKEMMCFIYTGKAPNLDKMANDLL AADKYALERLKVMCEDALCSNLSVEN AAEILILADLHSADQLKTQAVDFINYHAS DVLETSGWKSMVVSHPLVDEAYRSLA SAQCPFLGPPRKRLKQS
5551	13602	A	6371	21	358	GCRHSASCAAPRALGPARAPQR*PKAGR VFPERTS*T*G*PAPGRRHPGRIGRRR RSGCSRVRSSVRDC/PSSRSKASNPPLSL SSSTGCDGARPPCSV*RSRFPGAR
5552	13603	A	6372	1	1458	SLPRNLPVTIISQDFGDASPRNGQEADD SSTSESPEDSKYFLPYHPPQRRMNLKGI QLQRAKSPISLKRTSDFQAKGHEEETD ASPSSCGSLPITNSFTKMPPRSRSSIMSITA EPPGNDISVRRYKEDAPHRSTVEEDNDS GGFDALDLDELAAGETVAQSPPGVPCQP PLFQGSPLCQLRLPTDETKDEWSSLMG KHQRYQVLKRDDSHERYSFGPSSIHSSSS SHQSEGLDAYDLEQVNLMPKFSLERCR NRGPQRKGLAKAMQHGRGKEVGPRYP AVPIHDTVEPDPSGLRSPWGTGCAQGP RCSTRR*MATASPPSSPCWGATREGASC TRSSLALWPRKPASVRATSCCC*KAASE ARGRVSRWTHAPKRKPTGPSRGAAAPS RCTKGQPRSPAENPWACRI*CGQHLQSP ELRSSTALQVWNSRERKFIPAGVPEAGE GHGGRPDHIGGLVLHPAEPEHLQPAARL HHVPEV
5553	13604	A	6373	103	226	CCFEILKLMKILISEMHLMLFFL*QLRKS A*IPYVPELFLS
5554	13605	A	6374	112	303	
5555	13606	A	6375	3	109	AWKFFFYFILLFFFLEKHHFYVQ*NISL A*KKKK
5556	13607	A	6376	22	175	THDHVSVYFFFLGLKSTEQCDIKMQIFL FI*VENHLPVSIYILKYFLWIL
5557	13608	A	6377	1596	1878	TMSDITTFKALR*QLPVTRTKIDWNKILSY KIGKEMQNA
5558	13609	A	6378	394	626	SDSVNPQLRVFKILN*SLGILKTHIQIKLF FFFFSALTALGTLVVCVSIYLYGLPRQD TTSIQQGETASKERVIGV
5559	13610	A	6379	2	101	KTLVPLILPIITLANPCKKD*YPYYVKISI AC
5560	13611	A	638	1	77	
5561	13612	A	6380	1	297	SRFKRFFCLSLPSSWDYRHAPTHALANF VFLIETGFLHVGQAGLKLLT*GDLPALAS QSAGITGGNHCTRQVQCFFRCWGYTRES GQKLDPARVMFENK
5562	13613	A	6381	1	394	TGTHHFYLLLVLLFLEMGPQSITQADV QGHNHSSLQPQTPGLKQSSRLSL*NSWD YRHTPPHPANFFRIL*RQGSYVAQG*SQ TPGLKQFSRLGFPKRWGYRHESPHMAR DRYSYCPHPDEETGDPER

5563	13614	A	6382	3	160	QL*WSHLLKMLQRYSSCNV**KRRGLIR TYGLDMCSQSLCQYAKDIGFIKLD
5564	13615	A	6383	1	1240	
5565	13616	A	6384	3	3129	KLGSMEPAPARSPRPQODPARPQEPTMP PPETPSEGRQSPSPSPTERAPASEEEFQF LRCQQCQAEAKCPKLLPCLHTLCSCGLE ASGMQCPICQAPWPLGADTPALDNVFFE SLQRRLSVYRQIVDAQAVCTRCKESADF WCFECEQLLCAKCFEAHQWFLKHEARP LAELRNQSVREFLDGTRKTNNIFCSNP HRTPTLTSIYCRGCSKPLCCSCALDSSH SELKCDISAEIQRQEELDAMTQALQEQ D
5566	13617	A	6385	2	416	ACCLLYRGDMVPKDVNAAIVTIKTKRRI QFVD*CPTGFMDGINYPSTVVPVENLD KVQRAVCMLSNNTTAAEAWARLDHKFD LMYAKRAVHWYMGEAMEEGEFS DAR EDMAALDKDYEEVDADSVQR*GDEGQ EY
5567	13618	B	6386	95	412	TNRSIQFGDWCPGFKVGINYPPTAVP AGDLANVQRAVCMLSNNTTAAEAWARL DHKFDLMYAKRAVHWYVGEEMEEGD FSKAREDMAALEKDYEEVCVDSVE*
5568	13619	A	6387	2	614	
5569	13620	A	6388	151	1605	RGKTLRGLWRFKGIPTHSRENMRCEISIH VGQAGVQIGNACWELCYCLEHGIQPDGQ MPSDKTIGGGDDSFNTFFSETGAGKHVP RAVFDLEPTVIDEVRTGTYRQLFHPEQ LITGKEDAANNYARGHYTIGKEIDLVD RIRKLADQCTRLOQFLVFHSFGGTGSG FTSLLMERLSVDYGGKSKLEFSIYPAPQV STAVVEPYNSILTHTTLEHSDCAFMVD NEAIYDICRRNLDIERPTYTNLNLRIQIV SSITASLRFDGALNVDLTFQTNLVPYPR IHFPLATYAPVISAEKAYHDQLSVAEIT NACFEPANQMVKCDPRHGKMACCLL YRGDVVPKECHMLAILPPSKTKRTYPCF VDWVRPSGFHRCGISTIQPPTLLVPGGD TGARYQRSCVHC*ANTTAIAEAWARLD HKFDLMYAKRAVHWYVGEEMEEGE FSEAREDMAALEKDYEEVGVD\SVVEGEG EEEGEEY
5570	13621	A	6389	1	251	CLKEISFLNGSLTPGAAVKSWLTATSACS FKGFSLSLSSSWNYRCAPPRPTNFCIFS KDRVSLFLLFSLFPLARLVNLN*PQV IHLPWTPKVLGL*AAVKSWLTATSACSF KGFSLSLSSSWNYRCAPPRPTNFCIFSK DRVSLFLLFSLFPLARLVNLN
5571	13622	A	639	34	421	
5572	13623	A	6390	3	445	RLFFFFFFVFLVEMGFCHVGQAGLKVTS CDPPTSASQSAGIAGVSHRA*PNTSLK*K LTDSKSPGICFFVCFEIES
5573	13624	A	6391	2	176	CKFAHGNAELHEWEERRDALGMKLNK ARKDHLIGPNDNDFGKYRFLFKDLN*YA GFYV
5574	13625	A	6392	186	374	
5575	13626	A	6393	872	1122	LRPWKPLCSSVERLWLPVAVELLPPPPAG VLPQPSAQYGERRTFGLTCQGGPGTRAG PSMGCTGYT*RVISQVASGPFHHWPL
5576	13627	A	6394	3	415	ERLWLPSELLPPPPAGVLPQPSAQYGE RRTFGLTCQGGPGTRAGPSMGCTGYT*R VSISQVASGPSPLASRMVQRGWLGPVFR LLPAAALGDMCAHLASSPCSPLLTVPR ASQVPPKELDPISPCSLRPRKVSGP

5577	13628	A	6395	3	349	VSVVEFLCSKRFAQWSHLAQHLLHTG EKFPFCECGRCFRQRWSLAVHKCSPKA PNCSPRSAIGGSSQRGNAH*KGKDCLRSF HFMEGPRKGKEEPQVIQGRVRTKPGSPA AQS
5578	13629	A	6396	2	352	EGAAPSSGGPLRDFWGFPRTNKPSCGT G*SLQRICWMASLAPPGPAPRGQAPHTH RPLGRPSRGAQVQPAAQAGQATSKQSP GPGFWSQLPQDLTTASVSPSVNGASKAC LECKS
5579	13630	A	6397	2	361	GGEDPPALCRKPTAQTQTGKKHSGTAA VRSRERHKEVRAGHSLSALDSPSLLPGI LSPVHQCDVTRVDPISLLTALLWLPSAP K*RSEPHKPGVGDPVWSAPPTSGEDLILL ATSAH
5580	13631	A	6398	11	967	GSWSGLGARPPGGWNYTGSKKLSPGGE AL*MKRSKELITKNHSQEETSILRCWKCR KCIASSGCFMEYLENQVIKDDSDVDAQ NICHVWHMNVEALPEWISCLIQAQWT VGKLNCPFCGARLGGFNFVSTPKCSCGQ LAAVHLSKSRDYQPTQAGRLMRPSVK YLSHPIVQSGCDKEALLTGGGSENRNHR LLNMARNNNDPGRLTEALCLEVRPTYFE MKNEKLLSKASEPKYQLFVPLVTGRC ATRAFHRSKSHSLDLNISEKLTLLPTLYEI HSKTTAYSRLNETQPIDLSGLPLQSSKNS YSFQNPSSFGS
5581	13632	A	6399	105	465	SRAYCSLTLDFFGLKQSSHLSPQVAGPT GACYHAWPIF*ILAQMRSHYVARAGLEL LSSRDPPASASQSAGVTGISHHAWPVLL LYLAGTQSPEHFIYDGLDNVSSCLHANF SSLSYST
5582	13633	A	64	647	885	TGNLQNGRKFSQPTHLTGK*YPESTMNS NKFTRKKQTPSKSSSPQRTRHQRPW GSSQPLPAHSASPGRGSCSQHHF
5583	13634	A	640	3	345	DAWAWPLNRGFFRMMMDIGAAGVMQ GGDSVELLDIPLKLPDGSIDIPLPILLGRL GFHPLKNTVCIYGHLDVQPALEDGWD SEPFTLVERDGT LHGRGSTDD*VPLAGW INA
5584	13635	A	6400	1	462	HKSDGSTVSVPMMAQTNKFNYTEFTTP DGHYYDILELPYHGDTLMSFIAAPYEKE VPLSALTNILSAQLISHWKGNMTRLPRLL VLPKFSLETEVDLRKPLENLGMTDMFRQ FQADFTSLSDQEPLHVAQALQKVKEVN ESGTVAISSSTAVI
5585	13636	A	6401	3	569	NQASLSFLHLRPYSGHLIRGTPGRGWGK VGAASQRGRLEQLAAICRFSLETEVDL RKPLENLGMTDMFRQFQADFTSLSDQEP LHGPQAL*KVKIEVNESGTVAISSSTGESG SGEAPRVSPSPFRITGPQTRKGPRSPLGT EQLCLCSAITHSPVSPQPKRAWDHGT FPRLMAPKFPDCEKAS
5586	13637	A	6402	3	194	FFFFTCTQMFITALFITAPNWKQPRCPSIG Q*TNLFNEAVLSREESIKTKTRDRCYHM DRISK
5587	13638	A	6403	2	223	EMESCSITQAGVQW*DLSSLQPPPPGFQR VSCLSFSPSSWDYRYLPPRLANFCIFSRDG VSPC*PGWSRTPDLR
5588	13639	A	6404	2	247	RLFFFF/CFEMESHSVTQAVVQWRDLG SLRPPPPGFKQFSCSLSSWDYRHTPPH PANFCIFSRDGVSPCWPG*SRTPDLR
5589	13640	C	6405	65	211	MSPNWRWGPPCLATPQGVTPSDTQPCQ ALGLGPHPRNVQPPHISGTG*
5590	13641	A	6406	1	112	GGRGCNQS*SRHCTPAWVTQGPISDIDI LIRPPLTI
5591	13642	A	6407	259	380	GCVQQGVNVQHCAGQQHL*ENGGPGSS DCGWHRGHPLCRL

5592	13643	C	6408	5	160	MGFEGGPKILNWKFKKVXQXSCLXKG QXESIFLNTXKVIRAGDTXKSVLG*
5593	13644	A	6409	117	207	KKTMFRQKLFYKRKQLQKGPRP*GAGF KV
5594	13645	A	641	1	1254	
5595	13646	C	6410	155	394	MLKWIYRIFVNLFLVFRFFNCSFLCAEC ISLPGQECGGAEVSSFSRTFPQHLLSLYL MXXXXXXXXFLQALGLCYPIQ*
5596	13647	A	6411	68	547	LDNRCERCLTEGGWLTSHAPRGKGTW GQKKEPASWGPWGQW*RGAWPTGC KQGRGGSPSPQLGSGGRHEPGQAKATK ASPSQEGDKGRPRQQGPSWRKSSPRPI SDPPTPGDGKGPSSTSLRL*TRLEPDLVS LGISAGPTRWTLSSAVQLQ
5597	13648	A	6412	11	321	KNFYLFF*DGVSVAQAVQWRDLGSPQ PPPPGLKLLSCLSLPSSWDYGHVPTMPG* FCTFSRDGVSPCWSSWSRNSRISDASACL GLPKCWEFTRRDNSAPRS
5598	13649	A	6413	17	237	YVAQAGLNLASSQSSCLSLPKHWDYE CEPLCLAFFFL*ROGLAMLPRILPPIKSI SIRWRNGQKKMHQVL
5599	13650	A	6414	806	1680	AMGIHCITTRTSMPTTSAAVLPGPM RQWQLQLPPCIITQSRPCPSCHKSRIPW PVTSPPLSIPTIDTCCRPOELLQQLLQ QPLLLLQLPLHITGGIGAPCVALQPQSP LLERATVTGMRVSCPQLQPRGILCTTW PGMSGSSMPIGRVTATNAKARCRHAAD TALPAASASCVTGTTAACWAAAWASAT TGPSACCMPMPASCSTSLCCWALHCRP CCEPTRPSTWLPSSCFPGSC/CRDHHCR LGRCVGFGNYPFLCLL/SSCR/PSCTS LCCWALHCRPCCEPTRPSTWLPSSCFPGS CCSQPHCPITLWSTLTPLSHGRLWLQSQ TLSSPWALWKSRSVSGSLH
5600	13651	B	6415	61	516	MTTLKKNLADDDAVSCLVLGTENKELL VLDPEAFITLAKMSLPSPVPFLEVSGQFD VEFRLAAACRNGNIYILRRDSKHPKYCIE LSAQPVGLIRVHKVLVVGSTQDSLHGFT HKGKKLWTVQMPAAILTMNLEQHSGR LQAVMAGLANGE*
5601	13652	A	6416	360	861	RCGSFLQLLPMPKPADTALPAASASC GTTAACWAAAWASATTGPSCACCFMP PASCSTSLCCWALHCRPCCEPTRPSTWL PSSCFPGSCCSQAECLWHSPLWPS*RTA WRVRCCAGLGCSMGCSCGARPHGSG LGASTPMTWVPATTCRQPWAPARRLGP
5602	13653	A	6417	2	263	NPRDGPTTAACWAAAWASATTGPSCAC CFMPASCSTSLCCWALHCRPCCEPTRPS TWLPSSCFPGSCCSQP*SPLSSCKPLKPPV F
5603	13654	A	6418	18	211	NEPRASTLTSSKAGQRQAPWTLFPNSYP L*EYPPANPFQGGPHDCRAQTKDMGAQ APRVPEAGP
5604	13655	A	6419	2	548	NGFRGAHSQCPPACVLPGQAMSTGGRQ LPHPCMNPPSPGDSMDAVIKGAAVDLG GTWKGAKLGLWHCGG*PIENRAGAGE T*SLHI*TPVRSFGFLGTSPMGSPGALKN HGSCARPLLSPLYPYPPKERLPPPHLQS EDLPPRGPEALMPQELGLERC*YPLPQV PRFRGTGAGLVQA
5605	13656	B	642	52	554	MGKEKTHINIVVIGHVDSGKSTTTGHLIY KCGGIDKRTIEKFEKEAAEMGKGSFYA WVLDKLLKAERERGITIDISLWKFETSKY YVTHIDAPGHRDFIKNMILNHPGQISAGY APVLDCHTAHIACKFAELKEIDRRSGK KLEDGPKFLKSGDAAIVDMVPGKPI*

5606	13657	A	6420	368	623	LVCVFFFFF*ERESCSVTQAGVQWCDLGS SLQPPPPRSKQFSCLVLPSSWDYRHTPPC LANLCLIFKSRNPXYFIFFPNCEYWD
5607	13658	A	6421	42	179	
5608	13659	C	6422	28	219	MQILLKSKPKGSTKXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXFRCHD*
5609	13660	A	6423	2	161	KNLH*MESYSVAQAGVQWHDLSVQPL PPGFKRFSCFSLSSWDSRLYFRCHD
5610	13661	A	6424	363	750	REQDPACAWSSS/APNSSWSLHGEAVSH RECLSSPVLPGPDSSKALSSAAALSMSS GRGGGSLVPFSGPVSGVARWIASCVAGE SCLA*AGTRTRCTAPSEAT*SSTRGLSRG AASLAASVHHGSRMSL
5611	13662	A	6425	890	1879	LWGLVTSSCLSFRRNFTTEIFQEDLMLS DPLNLLSLVMWLCTLWTSALAALSMSSG RGGGSLVPFSGPVSGVARWIASCVAGES CLA*AGTRTRCTAPSEAT*SSTRGLSRGA ASLAASVHPGSRMSL*VAGKPKGPGPTE AAPSCRSSITCTPLTLSSHSTADRAL KASPGLSLRGPGSSGGELCARLSPSSSGM DTFPCLSPTSSWRRFNNSLLALARPRA ASAKPTALSTRW*ITCRSCSEL*TAKPCP VTVMGVLGGGFPPWEPVLPPLVSLQA QQOHLASLPEFPMRMVRGAQAPSCR RLPRARGETPPRLPSGR
5612	13663	A	6426	8	363	AEVQWRNLSSLQPPPPGFK*FLCLSLPRS *DYRLAPPCSANFCMVKTEFHHVGVQVG LELLASSDPPALASASQSAGITGVSHHA WPRASLLSLVIALKQASFFCSHAKPQVS QHFTN
5613	13664	C	6427	87	287	MIFFSFCVNTWCHSPFCATVTEYHSLIXX XXXXXXXXXXXXXXXXXXXXXXXXXWGLF CCIITQRKVEG*
5614	13665	C	6428	11	328	MHMYGXXXXXXXXXXXXXXXXXXXXXRI SEHILCIFRSNYRMIFFSFCVNTWCHSPFC ATVTEYPRLIXXXXXXXXXXXXXXXXXX XXXXXXWGLFCCIITQRKVEG*
5615	13666	C	6429	76	276	MIFFSFCVNTWCHSPFCATVTEYHRLIXX XXXXXXXXXXXXXXXXXXXXXXXXXWGLF CCIITQRKVEG*
5616	13667	A	643	36	695	
5617	13668	C	6430	7	324	MHMYGXXXXXXXXXXXXXXXXXXXXXRI SEHILCIFRSNYRMIFFSFCVNTWCHSPFC APVTEYHRLIXXXXXXXXXXXXXXXXXX XXXXXXWGLFCCIITQRKVEG*
5618	13669	A	6431	1	336	FFFFFRQSLVAQAGVQWCDLCSL*SPP PTLSTPLASASQVAGTTGAHH*TGIIFFVF VETVFCHVAQAGLELLGSSDPPASASQS AGITATVPSLL*LFIKQKQKNRTY
5619	13670	A	6432	3	1105	
5620	13671	B	6433	52	936	MAYLKIQKYEEAEKDDCTQAILLDGSYSK AFARRGTARTFLGKLNEAKQDFETVLLL EPGNKQAVTELSKIKKELIEKGHWDDVF LDSTQRQNVVKPIDNPPHPGSTKPLKKVI IEETGNLIQTNDVPDSTTAAAPENNPINL ANVIAATGTTSKKNSSQDDLFPSTDP AKVLKIEEVSSTSLQPQASLKQDVCQS YSEKMPIEIEQKPAQFATTVLPPIPANSFQ LESDFRQLKSSPDMLYQYKWLSSHQ DNTRAQRLEKAGWQLAFLRYYYHLLDV QKITVCMWQKAF*
5621	13672	A	6434	1	309	LPPIPADSFQLESDFRQLKRSPDMLYHD* KQIEPSLYPKLFQKNLDPDVFNQIVKILH DFYH*GKKSPLLEILQRLSELKRFDMA VMFMSETEKKIARGII

5622	13673	A	6435	1	936	
5623	13674	A	6436	1	1023	
5624	13675	A	6437	602	744	TPASLKIPVE**NTLLAKMVSIS*PRDLPA SASQSAGITGVSHRARC
5625	13676	A	6438	1447	1931	RKVFKWLSAPLDVSNCPSLCKD*W*RV* RFMPETFPAR*GAENPTLPCCHYSIN/HFT VFSFLF/IFFFWR*SLTLVPQAGVQWRDL GSLQLPPLPGFKRFSCLSLPSSWDYRCLPP CLANFLYF**RQGFTVLARMVSIS*PHDL PASASQSAVFSYLIFFLPY
5626	13677	A	6439	1	74	FWRPVRQSEYKQVNGQDSTFPI*CLQ TNTDYRFRVCA*RRCLDTSQELSGAFSPS AGFVLQRSEVMLTGDMSLHDSKMNS MMPTEQIAAIIALGFATLAILFGFI*QSE YKQVNGQDSTFPI
5627	13678	A	644	62	1548	PLKAKMGKEKTHNIVVIGHVDTGKST TTGHLIYKCGGNDKRTIEKFEKVEAAEM GKGSFKYA*VLDKLAERERGITIDISL WKFEQQVLMWTHDCPRDTETFIQKHD LQGTSQGLAWFGGPPFWGGSPLIVCCW CLVEFESWYSSKHWGRPREHALLGFTYT GVWKQTKLFGVNKNWIST*GHPTAQKK ILKEIVKGKSALTLRKIGYNPDTSSILCPIS GLNGDHMPGAQMPNLPWFKEWKITRK DGNASGTTLEALDCILPPTRPTDKPLGL PLQDVYKIGGIGTVPVGRVETGVLPKGM VVTFGPVNVTTEVKSVMHHEALGEAL PGDNVGFNVKNVSKDVRRGNVAGDS KNDPPMEAAGFPAQVILNHPGQISAGY APVLDCHTAHACKFAELKEKIDRRSGK KLEDGPKFLKSGDAAIJDMVPGKPMCV ESFSDYPLGCFVRDMRQTVAVGVKA VDKKAAGAGKVTKSAQKAQKAK
5628	13679	A	6440	2	174	FFFFFLLLENLF*PSNFGSYKPVHCCVFF CCCCFFLAVFFFVCFCCFFSFSFLFF
5629	13680	A	6441	1	271	PPRFFPEFFYSQPPKPPFKTPVFLGVKPG VSSSPPYQKKPTNFGPKMGAL*RIPLFET PIWVFPIKGFHKKKPPVLN*PPTRKPPD KI
5630	13681	A	6442	3	128	FFNKKPPFGRGWFLVPATLRF*G*KIFP PPPPPEVRFP
5631	13682	A	6443	1	154	LVWS*EASKIPGGAEAAHPPTTF
5632	13683	A	6444	2	230	FFESGSRSVTQAGVQ*HSLGSLQPLPPR FK*FSCLSLPSSWDYTHVPTRPANFCIFS GDGVSSCWPGWSRTPNLR
5633	13684	A	6445	70	550	NQVIWESFQAGRHHGHPAPSLAPSASSF LSSFCPSGKAETLESI*SSGKPGVGEGAT SLFPSIS*MFWEGPENGTOEPAGMPIHT PPSCSNPAIHSPGGTGAPGRREEALHCPP *HIPSHPPSRPPWLAPLSLRFPTMAVN DQDRSHVCFPLGLI
5634	13685	A	6446	77	485	NLVYVSSICFTWTFHFERKKFYVSHIVLY KVASPIMKCLYCHSGHTQVVQYLNGEA ARLGQGLLC*NVIIFICLLSLSLFFSFFG PMLKM*NFVFK*CFYNFIRKPKFVFFVTL DFNSLYIGTSNVITVLNKFH
5635	13686	A	6447	3	349	KVEDPSPVWRNSIFWKVITFKVYFFCLF VFLETESLSVVQAGVQWHSLSLQPLPP GFKQFSCSLSS*DYRCTPPRPADFCIFG RDGVSPYWSG*S*TPDLMLCPAFLPKVL
5636	13687	A	6448	1	189	FFF*IGPHSVAQAGVRWCDLGSCSLNLP GSSDPASASQVAGTTGVHYTYQLIFKFF IEMRAP
5637	13688	A	6449	2	304	LDTPLGAAPAAFFPLSLNQCLIYNPMPVR PLKAWRLKTGILTEPRVKGEALGAGMM PTGVSTASSPSYPLAPLGPRLPLQDCMH QALS*APLSDALCIAL



5638	13689	A	645	2281	2431	KLFFLKNVLLNFFLPLLPSPVLVCYCCF SFFFLYLCLFFTIVLGSARNK*KLFFLKN VLLNFFLPLLPSPVLVCYCCFSFFFLYLC LFFTIVLGSARNK
5639	13690	A	6450	21	359	SLLQSPAFFSPAFCGLL*PSVQVQSPAFS SLL*PSPAFSSLL*PSLLWPSFSGLL*PSLT FSNLL*SSLLPSTEETPAGQRQELQLFPV GGAADAYFPFKCFKILSSECLK
5640	13691	A	6451	2	170	LSLLSS*DYR*APSQLANFSIFL*RWGLA VLPRLVSDSWPQMILLPPVPDVLLEKA
5641	13692	A	6452	3	112	
5642	13693	A	6453	4041	4215	
5643	13694	A	6454	3	309	PPPPK*IL*RAPNPPLSSSSFNPTWGGP QPPPSKFSKFARFPFLPPFPFKKEPPSSSL FFPTKEGTVI*KNPPFSGFQSPDSIK*GRV EPPGGTKRG
5644	13695	A	6455	2	439	RTSAREKRDLNRLKKLGDSSKNSDC*SV SSNTDADATQEKNNATSNRKSSVGKK NSKSRTLTRQMSRIPASSNSTSSKLTHIN NSRVPKKLLKPAKPLLSKIKLRNHCKRL EHKNASRKLEMGNLVLKEPKVVLNKL PHKKR
5645	13696	A	6456	1	146	
5646	13697	A	6457	59	431	PTAMAEEGIAAGGVMDVNTALQEVLT ALIHDLARGIREAAKALDKYVYQSQC GFLQPEQNCHPREEGMEFMVLAQKF*M ASVLPET*EK/RQAHLCLVLANCDEPMY VKLVEALCAEHQINLIKVDDNKKLGEW VGLL*ILWVLATGTLKLPKGRRHGVHGV SAKVLNGIRPTGNLKGAKPIFVCLHPT VMSLCMSSWWRPFVLNTKST
5647	13698	A	6458	242	431	
5648	13699	A	6459	65	473	PTAMVEEGIAAGGVMDVNTALQEVLT ALIHDLARGIREAAKALDKRQAHLCLV AFNCDEPMYVKLVEALCAEHQINLIKVD DNKKLGEWVGLCKIDREGKPRKVVGCS CVVVKDYGKESQAKDVIEEYFKCKK
5649	13700	A	646	203	371	HTDIYPNGPRTNEPTAHELIG*H**PSHFR T*VEQYNINADLKS*YQHSMRMLSG
5650	13701	A	6460	32	485	HLVLASLLACLASIFLPSVGLGQCDLVGS QKTIPRNEGLPRKQTFLSDLLPSCLWFP YSPRLAIKTTIPLHQKPAKPKNITLTF FLSV*NWAIGKLFGLPSGL*GQEGPPFOR ESCAI*GRKECCAKRPRILTRPRWVPH SVYQH
5651	13702	A	6461	3	336	FFFFDIGSCFFA*AGVQWHDHGSQPP GLK*HDIPPTAS*VAGTTGAHHHA*LIF* LSVKMGSSPLVAPGWSMKSWTQANPSL LQPPQSAWDYRCEPPCLVRNTFEYV
5652	13703	A	6462	2	280	VLGIWRVPGGSGKMEKRESEKQILPRPIG CIWERGKSPGEAPSALPMPWSNPPPGTC TPSCPTYRCTPLPR*TDAPSRHHLAPRN GETIFA
5653	13704	A	6463	1	171	MWGWKEKIKINTFVYCWWEFKLVQNF WSTTWQHILKF*MSFDALLGIYPKYILT NT
5654	13705	A	6464	21	402	
5655	13706	A	6465	42	266	
5656	13707	A	6466	60	656	RRRRLPSVAIMIIYRDLISHDEMFSDIYKI REIADGLCLEVEGKMVSRTEGNIIDSLIG GNASAEQPEGEGTESTVITGVDIVMNH LQETCFTKEAYKKYIKDYMKSIKGLKEE QRPERVKPFMTGAAEQIKHILANFKNY QFFIGENMNPDMVALLDYREDGVTPY MIFFKDGLEMEKCVSTRKWVKINNVKK TF

5657	13708	A	6467	176	552	MRSSKQMKPNFPRCSSITVLSVRGMVLF LTLACPRFKMSSRTDFRFGNPQVT*GSTI CSIFRLPSILSMRTTK/DQGMFIWQFQGM RFHF*SETHLVTFLLPPGIM*E*FQSLKPE PFSFLLSCYCH
5658	13709	A	6468	98	507	RATEKWKGRKNHELWSKCFPLKIFFRRS LAMVLCTSKLRPSVLSMRTTKARECLSG SSNA*GFTSSRLRHLSRFCARNHVGMI PVA*T*ALFLSSAPSLPKMPALPGWLCGL DKPSSFSGDFLEPKGFFALAPP
5659	13710	A	6469	204	401	WHEFTGAENHCKTLPKENF*WCLCKSH PSEPKNAAYNRTLCDLGISKSEVSLGTSE EMWTSQGGQE
5660	13711	A	647	12	355	LFSSLSGGMQSLSLGQTGISSEGLN*LTSM APGNLWHMRNNFLFGSRCWMTRFSAEN IFKSVSFRLLFGVKCHNTDSEPLKNEDLLK NLLTMGVDIDMARKRQPGVFHRMITNE QD
5661	13712	A	6470	249	906	RIHFPRVSGPSQSNPKFAVASRGFFSLSL SAQPDPLPPPLGEALALSLHPVPRSTET VAGDSSELQLGLRSPQQPLAGLAFLARL FLLFPPP*RCKSKPN*NDRRSSVDSQIHL VGRESAHLPLAGLRVCVSLPLARCFGQV LQGVPLWIPSPGGS/AGVSGRRREERH MGVVVMRVRVEARVSS*ESKI/SRALR*S THLGLPKCWDYRREPPCPAH
5662	13713	A	6471	401	659	LIDLRFIYLFYLR*GLRLVP*AGVHWCN LGSLQSLPPGFKRFSCLSLSSSWDYRHAP PHPAHFCIFSRDAVSPCWSG*SQTPDLR
5663	13714	A	6472	1271	1538	
5664	13715	A	6473	1	369	ACSSCFHAGLEHVRVRGSGHSGVAAAR RSEAPDLFC*PPSLPVPSTPFPSPAPAMN QATSDPTHTCPTRLPTCPNAA*AGPTAD TPS*GIPDLPAVVLKTPQHLDLPVCSLCG PPLGPTET
5665	13716	A	6474	3	340	ETRSYSVTQAGAEWHDHRSI*P*PPGLR *SSHFSLSNWDYRCVPPHSANFLVIFVEI VFHHVAQAGLELLGSSDLPT*ASQSTGIT GVNHCPAEKEVLPREKAMQRGGSQA
5666	13717	A	6475	21	273	GMNERGNITKEIKKIWEY*LGTSQOLD TLD*TNSQKDTNYQNLTKYRKYGLEPI TSDYISNFKRLPKKSPGLDGFTGEFI
5667	13718	A	6476	2	3204	FGEPTSEQTGTAAGKTIAQTAPVSWKP QDSSEQPQEKLCNPCAMFAAGEIKTPT GEGLLDSPSKTMSIKERLALLKKSSEED WRNLSRRQEGGKAPASSLHTQEAGRS LIKRVTESRESQMTIEERKQLITVREEA WKTRGRGAANDSTQFTVAGRMVKKGL ASPTAITPVASAIKGKTRGTPVSKPLEDI EARPDMQLESCLKDRLETFLRRLNNKV GGMHETVLTVTGKSVKEVMKPDDDET AKFY
5668	13719	A	6477	250	5816	
5669	13720	A	6478	553	7399	NFNKKNLSFLGFPRQRKVSSFQKEFSLED KEQLANHERGIDAQLLVALPKVAELRQI FEPKKKEFLEMKRKERIARRLEGIENDTQ PILLQSGTGLVTHRLEEDTPRYMRASDP ASPHIGRSNEEEETSDDSLEKQTRSKYCT ETSGVHGDSFYGSGTMDTHSLESKAERI ARYKAERRRQLAEKYGLTLDPEADSEYL SRYTKSRKEPDAVEKRGKSDKQEESSR DASSLYPGTETMGLRTCAGESKDYALH

5670	13721	A	6479	380	999	AGAKGGPGGRGMKKTNSLTPLLSAYR LLPVELSKGWGILGFSVCPFAPGLMAKG VSPCDTAVKRDNIH*VGGGVSKCP*RSS *WSGPVPALTALFLVDNHHEVYLWQGW WPIENKITGSARIRWASDRKSAMETVLQ YCKGEAPSNMPAARNRWGSPSGMRSQE TPFPFCACQPASIHKAQVVDENPIFSPL KPFEDVIKFLD
5671	13722	A	648	1134	1633	PNPTGTLMMLARKWCPDGLQSLPPDVLGS *GEHLLSCLCQERACSSNSRRRQAWTG SQGSRVINFFFAKVGTC HQGPNHQKAP KAPGTPPTPSYPTPSRQLLWQVWQPRP ALPASSPCSRHQLYLPRQAMSWLLSPAP SVPLDFSGASPVWATLCFPHRLPHR
5672	13723	A	6480	78	200	KKGSPFFPKVGGQGGNLGLLEPLPPKLK KFFCFKPKRGDYSSSSSSPDSSSSKKK GVSPFWPGGV*TPKEGGL
5673	13724	A	6481	179	384	FNSYYMYVYVYVHICVFLYVCICIYRI YLCIAVITCLMNEW**FKCKGNDARGYE KKLPSKYEIEKE
5674	13725	A	6482	76	205	RKKPEPEKTCFDNITGNTYPCLSTYEHDS D*YYVNRT*LCAER
5675	13726	A	6483	2	774	HSYSHSHGHCSPAGDTEQGYKPVWPV CSLFPDGSHPGV*QPIHEPA/QGRGGLPP WGAA*TPRAWRLA*RPRG*AALPWA*T SPGRPASAPLAHTGSGCPSRPTRAPGSP/ IPIQNIKRYPYGEAFVPSRAGPTVGVTRS FHLAPSLPPFPSS*LSPSLPRTTTSCTRAI LTPSS*QKLLYPPSRPVVLLVRRARPPAA APTSEEPERSPWETPHAAPSQLHELHET HSVAQKSDLLPAPEAM*PGSVSSRFLLY
5676	13727	A	6484	2	732	GRRRPGPKPPRAPGRDRDRCNF*PCCPP GAKSSAACCCDIRRAARAIPLGNPCSP LSAP*AP*NPLCRTVMGRSPMTLSLGSRT PTSLPAPFPWSPRFG*PTHPRARSLGTL WPMPTTP*IQAAATPWRR*PPATQASTP HSLRGSSSSSQRLAPLRPTSSRACMAGP TTPAAGALGPVTLGVLTTPQAWASLRTP GRLTSLSPRQPLQQRQWQQQQPQLQPQ PRPLWQPCRRHRTI
5677	13728	A	6485	2	338	CTTAIPTPEEMTRLRSMNRQLQINVDCA LTEVDLLQSRGNFDPKAMNNFYDNI*PG PDVPPKPSKKGPTDSEPKTSSGPCSNGC LLSCKFFHACSRFQNPICIHQSTLAA
5678	13729	A	6486	84	300	RVGARGKMTALASGQLGPLMCQFGLPA *AVEAANKGDVEAFAMQNIKPEQI* GDTKDKTD*KEDLSLD
5679	13730	A	6487	91	668	SRAQVVLHCVLREWAGGRRSPAPPSPW PVLHVDPQSWQLSSVALGCSPGWSSAL AWLFLQALGMFSAALASGQLGPLMCQF GLPAEAVEAANKGGKVAAPGTPRPEPG AGSIPVPLDLQKWG*GGKGHSALDPI ALIPSGARVRHHLVSLTCSVDVEAFKA MQNNAKPEQKEGDTKDKKDEEDMSL D
5680	13731	A	6488	1	414	LQPGPAGAQQVDLA/SVV*PPEIMAPILA NADVQERLLPYLPSGEISLPQTADENQNT LTAPSSQALGMFSAALASGQVVGAPF MCQFGLPAEAVEAANKGDVEAFKA MQNNAKPEQKEGDTKDKKDEEDMSL D
5681	13732	A	6489	205	553	LSRPRHHKASTTGAQMQRTRSMRQEP EKAILTLRGSRPTPRAPQLVPSVPSSWL FLSLHSIAQTPLPHTHSTHTPRSQPALPSQ APVVPVQHPHPPE*ALSPDNLFMSILKSP

5682	13733	A	649	1	370	QRLAEMSNAIERKHATKMTYQPTNGTL TSGYVADRRVKHHS GGEEFFQAQKQEP HPGTSRQ*QTRVNLHSLPDPHEQTYF RGMRYRLGGWKAGPEGTFYDIPRYVTA YTFahrTPADIRAM
5683	13734	A	6490	3	347	SFFFVLRRSLAVAQAEVQ*RNGLSLQPPP PEFKRFSCFSLPSGWDYRRPPRPANFLY F**RGVSTMWGQGWSTPDLRGDLAHL GSPKVLGMTGREPPCLGPLNGLTFLPEIS
5684	13735	A	6491	280	406	FFVFLGETGFHRVSQDGLNLLTL*SARLS LPRCWDYRREPPH
5685	13736	A	6492	1665	1787	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
5686	13737	A	6493	1431	1553	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
5687	13738	A	6494	1740	1862	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
5688	13739	A	6495	1173	1295	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
5689	13740	A	6496	1027	1149	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
5690	13741	A	6497	631	744	VIEHLVSQDGLDFTLS*SARLGLPKCWD YRREPPRPVH
5691	13742	A	6498	166	352	IFFVFLVETGFHHVSQDGLDLLTS*STRL GLPKCWDYRREPPRPAPSSPIFHTVAPIQ YTHP
5692	13743	A	6499	2250	2372	FFVLLVETGFHRVSQDGLDLLTS*SAHL GLPKCWDYRHEPP
5693	13744	A	65	1586	1775	
5694	13745	A	650	1	222	
5695	13746	A	6500	150	368	EKELAFFPQGE MQGNG* LKPPPLR*R DFSCALPRGGNGRGAPPSTNFGFLGG NGVYPSGGGFETPDLK
5696	13747	B	6501	174	350	MDEKTKAEEMALS LTRAVAGGDEQV AMKCAIWLAEQRVPLSVQLKPEVSPTQD IRFLM*
5697	13748	A	6502	1	498	EFRAPGGLPRTRRPARRVAGSGGPG*GV TIFPAPPPSPAPLPGPLSLPLPKPLPLRR TGASREERGLCLETDRDARGAPASGGPPG LGTPRLGGVRASFRRFPFRLVPFPAP ADLSRRPLPSHRPTQDPLVIGQCDASRL PRGQRGTHRAWAAPEATRPG
5698	13749	A	6503	919	1761	RAFSFNREEPTADEQGLPTS VAGRPVIA AVPSWHARGTERRAPGRD*HHPHGLG AQPSAALLPGLP*HCGHISAGGRREAGNI PGRKIIYPPPGFYGSNNGQHQA YIKLSD A/SLTR*IQSSMTSCRVL R*GPSLPSAGS SPGLGMSCLTSGTSCGYMTSSWPPTDA DLLCSRDCVVS RAGSPGL*L*HGLGPPV /SPRSLRTPMRH*SAEQETFLSFPHPNL LGRPLNSKLGRQPLLSKTL SWHQPSR GLIWCCGSGFGDFCGLKIEQKMS
5699	13750	A	6504	131	575	VFALKPGTPGALPQVGVLRLERPGWV VSGRPPFPASSHLGLVPFPAPKCGTL SRR PLPSHRPTQDPLVTGQL*CFPTAAGTAT AHTGLGPRRKPHRPWLSCSWSPRLFPD PEVSIFPRKARSPPGEWG TATPDGREDQE SRGNGP
5700	13751	A	6505	2	291	HEPQLNSNNVALHGAVIPGPPFLGACIN LMNFMVALFIPEYKIARGVQKHTYKHN GSLTNT*RGSDIEDIEPLLRDSTIWELFSF EPPGNQCP EL
5701	13752	A	6506	1	267	PRFKLFPCLSLSS*DYR*VPAITPG*FLY FF*VKTGFHHVGTGLELLTSGDPPTSAS QSAGITGMSHCTWPISFLYLWHTGGKKK EC

5702	13753	A	6507	1	216	HEWMGTRVGEWMDEWKEGWKMDGK VDK*MNGWMEGCLYQWLNTEILCQELI PYTCLCLFSGWIYIFKQSILD
5703	13754	A	6508	74	356	
5704	13755	A	6509	2	375	RHEVKPQWTPG*DTDHLPNLSVALGPTR QPGRQRPEGTQVPSIPASSIPASQSOPQ SQPPNPSLLHPRTPTPSLPIPASLIPASPKT QTL*IPASEVGTVSNPTPWTRKLGPGEAN RLSLMV
5705	13756	A	651	3	556	LPTEVAAISFSLAIGKHSATVFSWPAGKP PSRILPHLGPLLPQKASWPLRLPLVKPKF VKKRPKKFIRHQSDRYVVKIKRNWRKPR GIDNRVRRRFKGQILMPNIGYGSNKKYTK HMLPSGFRKFLVHNVKEQGLEVLMLCN KSYCAEIAHNVSSKNRKAIVERAAQLAI RVTPNPANRLRSEENE
5706	13757	A	6510	3	148	HERREVTVIRRGKGKHLRLVPTRWAGK GLLG*SICFWSFSLGHHWSVC
5707	13758	A	6511	50	255	LSMVSTVLVTIMKLCY*K*QIQSWLPC LTHTKTHTHTHTHTHTHKVLHTLTCKQ YYAIIIGNVLSFY
5708	13759	A	6512	268	355	
5709	13760	A	6513	2	206	
5710	13761	A	6514	1	317	FFFFFPLFRQCLTSPRLEYSGTISAHCS LSQPGSSDPPTSALRVAETTGRHHAWLI FVF*VETGLHHVVLAGLELMGSRNQPTS ASQSAGITGVNHRAWLTW
5711	13762	A	6515	2	210	KEKIFPSPGFKHPPPPF*KTPLKGKRIFFS PPRKNWPPQRIFKKAPPSSSSSSSSSSSA QI*SFNSP
5712	13763	A	6516	674	985	WFFFWLCHPGWSAVAWWHDLSLQPPP PRLM*FSCLSLLSNWDYRRAPPFLASFVF LVDTAFRHLGQAGLELLTSSDPPTLASQS AGITGVSHRTQLRSSFDS
5713	13764	A	6517	2	336	
5714	13765	A	6518	3	260	CLGLLVIFVCNFSIRDYRRPPLH*LIFV FLVEMGFYVVG*AGLELLTS*SARLLAS LRAGITGVSHRARPRSFVFGFGWQDHG
5715	13766	C	6519	38	478	
5716	13767	A	652	2	395	
5717	13768	C	6520	33	317	MLTNHLHHWPFKNXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXTRCPRIITFFLRG*
5718	13769	A	6521	1	253	RRLFFFFLRWSFALVAQAREQWCNLG*L QPPSPGFKQFFCSSLNSWDYRRAPSCPA NFVFLVEMGLYIFKEWDNDGRMICEAF
5719	13770	A	6522	2	411	GVLRLSSACPAQCPSTSTGP*AALAGFT TTGSLCWAWTPSSSFVSGSSREAPSGT ATTSWTRNVATATSATTANRMAMCTSR TARLLLAPTTNCSPRSCTLTPIDPCSGGC RLTCKDNTPRLTGTGQGRRGTF
5720	13771	A	6523	2	222	THIGLPKC*DYKCEPPVHRQFL*F*VETR FHHISQAGFKLTTSQDPPALASQSGRITG VTTRTQPLNGFYKVM
5721	13772	A	6524	2	261	VVVVSQYAAERPSVVAHACNPSTLGGR GRWLT*GQVETSLASGYLPTLASPKCW DYRREPLRLACFNFFVETRNLTLVLPISV QQ
5722	13773	C	6525	203	355	MVALSTRGQVHLSGAVVPSSFLIFLIAPS GEQEVDIAMVAGYAVTSVVLL*

5723	13774	A	6526	2	671	GVGGVGRGMLPPAPPAPAGFPSTILW PSPPLL*LPPPGLGTGFLPFGHGCPPLSQS PWILFPWGGAQAQPL*P*PRHPCPPHPR QSYGRQLPTFWLAPPSFCLSLVFSSLSLIL SLSSVSRSVLLP*HPPPHISFHPLGFLS*AS PISGVGGIKAFLPLRFQPPF*PLIPTTPLSL PKMGALWGRL*HSTPAQAMGSRAPFSG LAQASTYLLQPPGVVGS
5724	13775	A	6527	3	477	AGKFPLRSGHFPCFLTVESVCSPGPKPSV IPLSPCGASAPSPRFLSPSPGLVRAVLHC TLLVAS*APPPASPPGVAVFSPVSIWHPS RLPGSYGLCGQHRLDPTKPRSRTHFRA VPPLVSCSLPSPNLPLMTSGVQRPPKGLE NSLLQLADLNK
5725	13776	A	6528	1	381	
5726	13777	A	6529	1	2654	MSFFSTLKTALSKEKLAATGVLVLICAL VGAGFAWERHQLKQAEKIGSLDQAVK ERDKSIMDLNQTETMNAEQHFHSQEV KNESEQAKYADRQMERKAEVQKQLVA AGNVRQRIADTQRLRESISEFNADAD KGIFMSDKVTVKQTINKATSIYKIEQITV GKPGSEQYRRAFELADQLGLKHPDCIEH VFPTYADEQCTHVLTEEDFFSTEEREGV DRCIGVICSSVDELFPNVPEYGGIGYQF LYEGDELKCYEHDIESKAKELTVNSNNT VQPVALMRLGVFVPKPSKSGESKEIDA TKAFSQLEIAKAEGYDDIKITGPRLDMDT DFKTWIGVIYAFSKYGLSSNTIQLSFQEF AKACGFPSKRLDAKLRLTIHESLGRRLN KGIAFKRGKDAKGGYQTGLLKSWRADS KLWELFQLDYRVLLQHHALRALPKKEA AQAIYTFIESLPQNPLPLSFARIRERLALQ SAVGEQNRIKKAIEQLKTIGYLDCSIEKK GRESFVIHTYLIAPAIPQHIIQCDFFLSHIL DFYSPSSTHRSCRASRSHQLIESEAWLPIE AGNHQNDSGYNLNVEEIRVLYAWRMPK HVVTHLAKDQLHKVAQRANRMLNVL EQVQLQKDELHANEFYQVYAKAALAKL PLLTRANVDYANIIDIYEHGVPKYRDR YSERGVSKTVSTVSLAHAMRAHPHLLM EDLRILVIDLDPQSSATMFLSHKHSIGIVN ATSAQAMLQNVSRLEELFEFVPSVVPV VDVMPASIDDAFIASDWRELCNEHLPQG NIHAVLKENVIDKLKSDYDFILVDSGPHL DAFLKNALASANILFTPLPATVDFHSSL KYVARLPELV/KLISDEGCECQLATNIEK QTNNWANP
5727	13778	A	653	1	1055	TDCRVDPRVRPRVRVEHSIVGTRLVSCQ LQSPQNADQGKLTMMRIAVICFLLGIT CAIPVKQAESIGSSEKQLYNKYPDAVA TWLNPDPS/QVRQNLLGPTGPFPSKVQR KGHGPHGMIWDGWKVDDDDPC/VDSQDS IGLGTLLDDVDDTDVSHQSDSHHSDS DELVPDFPTDLPATEVFTPVVPTVDTYD GRGDSVVYGLRSKSKKFRFPDIQYPDAT DEDITSHMESEELNGAYKAIPVAQDLNA PSDWDSRGKDSYETSQLDDQSAETHSH KQSRLYKRKANDESNEHSDVIDSQELSK VSREFHSHEFHSHEDMLVVDPKSKEEDK HLKFRISHELDSASSEVN
5728	13779	A	6530	1	945	

5729	13780	A	6531	146	4368	LGFLRLSEMPRKQGDYRT/SDMEIRGR VEQRVGYTIEQINMRDVFGRRLRAED VFPPVIGVAAHKGGVYKTSVSVHLAQD LALKGLRVLLVEGNPDQGTASMYHGW VPDLHIHAEDTLLPFYLGEKDDVITYAIKP TCWPGLDIIPSCALHRIETELMGKFDEG KLPTDPHMLRLAIETVAHDYDVIVIDSA PNLGIGTINVCAADVLIPTPAELFDYT SALQFFDMLRDLLKNVDLKGFEPPDDLAI LF
5730	13781	A	6532	820	2011	TTTLVRLPCRSKRRRIKALRSQRLGLPM MRVPSFRLRVTSPTFMKSLTWQVHLLVL MLLVMFWTCNPSVCTASYVAAMCWW QAPMAPAKPQPSRWKTSKARMYQSQK VAKTSTLTVLSLLITVPAAYFTRLLMLL LPLMRVPSFRLRVTSPTSMKSLTWQVHL LVLMLLVMFWTCNPSVCTASYVAAMC WWQAPMAPAKPQPSRWKTSKARMYQS EKVAITSTLTVLSLLITVPAAYFTRLLM LLLPLMRVPSFRLRVTSPTSMKSLTWQV HLLVLMMLVMFWTCNPSVCTASYVAA MCWWQAPMAPAKPQPSRWKTSKARM YQSEKVALTSTLTVLSLLITVPAAYFTR LLMLLVSKSL/CTCSLNYNIGQIALSFSKA PDKGTEIAIERGANGDVLDMQSVGVYSQ LRRRYVLVASSDGTSTATFKMEDFEGQ NVPIRKGRNTIYVSRIKSVVDNGSGSLH SFTNAAGEQITVTCSLNYNIGQIALSFSK APDKGTEIAIERATDDACTFIPVTRDQSDI YEVFNAGSSFSGSYAAGDVLDMQSVGV YSQLRRRYVLVASSDGTSTATFKMEDF EGQNVPIPKGRKNYVNRKSVVDNGSG SLLHSFTNAAATADACTFIPVTRDQSDIY EVFNAGSSFSGSYAAGDVLDMQSVGVY SQLRRRYVLVASSDGTSTATFKMEDFE GQNVPIRKGRNTIYVNRKSVVDNGSGS LLHSFTNAAATADACTFIPVTRDQSDIYE VFNAGSSFSGSYAAGDVLDMQSVGVYS QLRRRYVLVASSDGTSTATFKMEDFEG QNVPIRKGRNTIYVNRKSVVDNGSGSL HSFTNAAGEQITVTCSLNYNIGQIALSFS KAPDKGTEIAIERGSST
5731	13782	A	6533	1	3039	MLNVLTEQVQLQKDELHANEFYQVYAK AALAKPLLTRANVDYAVSEMEEGYV FDKRPAGSSMKYAMSIQNIIDIYEHRGVP KYRDRYSEAYVIFISNLKGGVSKTVSTVS LAHAMRAHPHLLMEDLRILVIDLDPQSS ATMFLSHKHSIGIVNATSAQAMLQNVSR EELLEEFIVPSVPGVDVMPASIDDAFI ASDWK/ELCNEHLPVLKLISDEGCECQL ATNIGFMSKLSNKADHKYCHSLAKEVF GG
5732	13783	A	6534	1	2607	
5733	13784	A	6535	1	4557	
5734	13785	A	6536	3	2847	ELHAYAMSIQNIIDIYEHRGVPKYRDRIL AHAMRAHPHLLMEDLRILVIDLDPQSSA TMFLSHKHSIGIVNATSAQAMLQNVSR ELLEEFIVPSVPGVDVMPASIDDAFIAS DWRELCNEHLPQGNHVLKENVIDKLK SDYDFILVDSGPHLDAFLKNALASANILF TPLPATVDFHSSLKYVARLHELVLKLSN EGCECQLATTIGFMSKLSNKADHKYCHS LAKEVFGDMLDVFLPRLDGFPERCGES
5735	13786	A	6537	1	4236	
5736	13787	A	6538	65	316	
5737	13788	A	6539	54	265	

5738	13789	A	654	2	1103	PGRPTRPPTRPGGGRAQHRLYQTLQSAS CSLLSQTPTRGKLTMMRIAVICFLLGITC AIPFKQADSGSSEKHFVYNKYPDVAT WLKP*PIFRRQNLGPTWLCPLKETNGL *TRRTLKLSRNGKAMDHMDDMG*WK VDGWTMWDSQDSIDSNDSDVDVDDTD DSHQSDSHHSDESDELVTGFSTDLPAT EVFTPVVPTVDYDGRGDSVVYGLRSKS KFRRPDIKYPDATDEDITSHMESEELN GAYKAIPVAQDLNAPSDWDSRGKDSYE TSQLDDQSAETHSHKQSRLYKRKANDES NEHSDVIDSQELSKVSREFHSHEFHSHED MLVVDPKSKEEDKHLKFRISHELDSASS EVN
5739	13790	A	6540	2034	2174	EMPGHARCYADQQRYPFLPGSEVLP/ASI NVAWRPVDNLNTCSTRSPE
5740	13791	A	6541	33	285	
5741	13792	A	6542	1	2448	
5742	13793	A	6543	1	2979	
5743	13794	A	6544	1	3276	
5744	13795	A	6545	1	67	MTKCSHLCNNYLFSLWRDNGILIATGER RNVKQKEYISRGYFTLKETVIDTSNGSRI SFTTRITGKGQQWLMKRLLDADVVRTTS IVMLAKVTLSCITMSDFTFSGYELACFV THSGLSRSAGHILSQCANLAATTSEYFIH KPHRLITAETGYSQSTVVRAFREA VNK ILSVEIVIGDHRERRANLYRFTPSFLAFAQ QAKNALIESKLKISSAATKVKAVLAKTL ALFNFLSTPPCQNDTPSPCQDDVAIKNK KSQVKKTKRSVSGGAGTTSLLKLT SWIA KAKAKADNLRSLSKRTQKHEFKQKVEA AARKYAYLKNKRSPDIGGISNFDNLPHC MTVNEALNAVLAKNKDNEQWGAVAGA YIADITDGEDRARHFGMSACFGVGSV YMQTRYRGKLVSGFVVQMILTPRAD GTFITSTDSETVHYHYGPKDLVTILFYIFI TILHAVVQEYILDKISKRLHLSKVHHSK FNESGQLVVFHFTSVIWCIFYVVVTPQA LTRVLNCLLALGSNAAVMGECCGFAQLQ QTWASALADYAAAHKSMPRPEILASCH QTLNCLIESTRNSMDATNK/ADAGICRS RDDRFR*RCYASAFIPRDDPACSVGGSY R*CVITEF
5745	13796	A	6546	1	3435	
5746	13797	B	6547	9377	1600	MSDWSRV TGMKVHASAVAAPN*TGRII ARNKGRRITPSETLIISAATDSSIALLVAS MLLRVDSLIAISVPLSGALENDRAI
5747	13798	A	6548	3	127	LFHPCQDSQQHH*CVCCRLTGHGAA*V HGPCQAVQTYRASH
5748	13799	A	6549	2	323	
5749	13800	A	655	3	267	TINPKLLKNHARGTPEVPNQKHHWSPKQ KPLLTKNPKNNLPRWPVPIIPFPPEEKPR KFP*TPKRRIP*TKIGPLSPNPGYPTKPPF
5750	13801	A	6550	2	94	
5751	13802	A	6551	171	632	
5752	13803	A	6552	3	325	
5753	13804	A	6553	2	171	



5754	13805	B	6554	104	1164	MCDEDETTALVCDNGSGLVKAGFAGDD APRAVFPSIVGRPRHQGVMMVGMQKDS YVGDEAQSKRGILTLKYPIEHGIITNWDD MEKIWHHTFYNELRVAPEEHPTLLTEAP LNPKANREKMTQIMFETFNVPAMYVAI QAVLSLYASGRTTGIVLDSGDGVTHNVP IYEGYALPHAIMRLDLAGRDLTDYLMKI LTERGYSFVTTAEREIVRDIKEKLCYVAL DFENEMATGRHPSILPWKRATSCQTGGQV ITIGNERFRCPETFFQPSFIGMEVGGHFR PPYNSIMKCDIDIQEGPCMPNTVMFGGH PRLYPWEFADPHARKRFTGAGTPGTHEE SKDKDSFAPRRSGKILG*
5755	13806	A	6555	1	308	LRPWC/GHLRT*AQYHTLRAARLDPNFA IA*MEAKATDGPPFFE/VRGFPTIYFSPA NNRLHPTSEGGRDLSDFISYLHVEATNP PVIOEV*PKKKKKAQEDL
5756	13807	A	6556	2	589	AIRTAKEKFVMQEEFSRDGKALERFLQ DYFDGNLKRILKSEPIPESNDGPVKVVV AENFDEIVNNENKDVLEFYAPWCGHCK NLEPKYKELGEKLSKDPNIVIAKMDAT ANNVHSPYEVRGFPSSHILLSKPNKKLNP KKYEGGRELR*FLLAIYQREATKPPPIQ V*FIPKYRRRRHQEDLLKPVAQTPTL
5757	13808	A	6557	1	129	
5758	13809	A	6558	23	115	
5759	13810	A	6559	1	1582	GRGWRAVLGWSRRRSGLPATVGSMA LLFLLPLVMHGVSRRAEMGTADLGPSSVP TPTNVTIESYNMNPVYWEYQIMQVPV FTVEVKNYGVKNSEWIDACINISHHCNI SDHVGDPNSLWVRVKARVGQKESAYA KSEEFVAVCRDGKIGPPKLDIRKEEKQIMI DIFHPSVFNVDGEQEVYDYPETTCYIRV YNVYVRMNGSEIQYKILTQKEDDCDEIQ CQLAIPVSSLNSQYCVSAEGVLHVWGV TEKSKEVCITIFNSSIKGSLWIPVVAALL FLVLSLVFICFYIKKINPLKEKSILPKSLIS VVRSALETKEPKSYVSLITSYQPPSLEK EVCCEPLSPATVPGMHTEDNPGKVEHT EELSSITEVVTTEENIPDVVPGSVHLPIER ESSSPLSSNQSEPGSIALNSYHSRNCSESD HSRNGFDTDSSCLESSESLDSEFPNNK GEIKTEGQELITVIKSPPSFCYDKPAHVL VDLLVDDSGKESLUGYRPTEDSQRNH EISLSCTQL
5760	13811	B	656	197	404	EQQLQAQHLSHGHGPPVPLTPHPSGLQ PPGIPPLGGSAGLLALSSALSGQSHLAIK DDKKHHDAEHRX*
5761	13812	A	6560	69	523	PLGCASSQISASRNTLCTTASSCCPQVL AHSKAAEYMTWKVQQMPHSQDRAL QSVFCAPFHS**LVALPTGHR*MTPAQFS ECFQATSGGSD*DPFLAPSFLVPLPVAP GLLLPLGPVHSRATMEEGQATHEELTVFI GLRPGVRGS
5762	13813	A	6561	101	1469	RTHPTFPHPGTGPTSAPPSGALEGTAGTI TSNEWSSPTSPEGSTASGGSQALDKPIDN DGEVWSPDIEQSFQALAIYPPCGRRKI ILSDEGKMYGRNELIARYIKLRTGKTRTR KQVSSHQVLARRKAREIQAKLKDQAAK DKALQSMAMSSAQIISATAFHSSMRLA RGPGRPAVSGFWQALPGQAETSHDVK PFSQQTAYVQPPLPLPGFESPAGPAPSPS APPAPPWQGRISVASSKLWMLEFSAFLE QQQDPDTYNKHLFVHIGQSSPSYLRPYL EAVDIRQIYDKFPEKKGGLKDLFERGPS NAFFLVKFWADLNTNIEDEGSSFYGVSS QYESPENMIITCSTKVCFSFGKQVVEKJET EYARYENGHYSYRIHRSPLCEYMINFIHK LKHLPEKYMMSVLENFTILQVVVTRDT

					QETLLCIA YVFEVSASEHGAQH HIYRLV KE
5763	13814	A	6562	1	1290
5764	13815	A	6563	604	1047
					SNNRTDNPTSVAYLSKETDVVAKGWPH CLWVVVA VAILVLEAIKIIQ GKDFTVWT SHDVNGILGAKGNSWLSKRLRLRYQAL LLEG PVLQIHTCV ALNPAIFLPEDGEPIKH DYQQIVAQTYVT*EDLLEVPLANPDLNL YTN GSSFV
5765	13816	A	6564	1	1410
5766	13817	A	6565	510	755
5767	13818	A	6566	59	411
					SWPSDKQTLVVQRGQKMEQANHPDPTD HMSQLMWT/VLPQGFRDSPHLFGQALA QDLGHFSSPGTLVLQYVDDLLATSSEA SCQQATLALLNFLANQGYK/LSRSKAQL CLQQVKYLCL
5768	13819	A	6567	1	565
5769	13820	A	6568	126	492
					CNNSMTSLQVRLKVCPRPCRTSM/LPIRII *KLPQVCLDLL*IREGEWDMYPCWAKFP CPYSLKGT*PIAWGILWSFGDFFAY/IPLM QQQKH*FSSQNTRRNEEGQI*WPLLMHS QKPAPLPVV
5770	13821	A	6569	1	342
5771	13822	A	657	2	651
					LSRVLEFEFQFLQAQYHSLKLECEILAS EKTEMHRHYV MY YEMSYGLNIEMHKQ TEIAKRLNTICAQVIPFLSQEHQQQVAQA VERAIQVTMAELNAIIGVRGLPGLPPTQQ QLQAQHL SHGHGPPVPLTPYPSGLQPPG IPPLGGASAGLLALTSALDGQSHLAIKDD KKHHDA*HHRGDRPGKPD*DFVLILLQC CKVVCIAKESPNLYREQT
5772	13823	A	6570	55	219
					LGNKHL LGSIDPRGSWVTGEYIFLRPIIA A*GRQ*DFLPPELWWTSLNNSWAFS
5773	13824	A	6571	339	1371
					ASHPLRGLLCGPSLPNEPCPLLHGTSRHR PLKG*GVRAHSTGLAGSSTCRPLRDPLG EASWAPESAQGL*IHQSALCI*LKLKPAG QRAKLGDRLDIPDRRKSSITLGRAGDLQ PAMPEPPTLSVGSCAAQASPMNPAPCST APSPIDHSRAEECGRIARDWQAAPPAGP CGIHWVKPAGLLSLRDCKYTNRHSVSS SRFANTNQHPASSSGFVNAPIDTLYLANL VGTWRTFVASSGIVNAPITLSKQTTWL YQSAGCGKESTQASGAQTGGTSFKSLET TGSISEASSAKHCTELFSRFTTFNPDSVPS DGVVGD TAGTVWPGVLKGEPCHLGTCY RCVLDPHPTPSES DTIQGIHVQVCY MSTL HDADVCDTNDPVTHTNKKYISTEIFTS NNPELRSEDET VFRALEK WKTSEQTIGE MDFYICNDPDPDSALYQNGLSKMQDTV SLSVFSPSVAA
5774	13825	A	6572	749	1002
					QLKKG TNSLLVSKPSPVWIPTGTLTQIMG TGVANIC*PVF*KD*GELGKMNYAMMS TITQGKEENPAFLKWLWEALRKYTPLSP
5775	13826	A	6573	1	1632
5776	13827	A	6574	307	543

5777	13828	A	6575	1	1149	
5778	13829	A	6576	119	409	GDICHHLGLTPVGSHLLSCSR*QVA*VG AVTAATIGTGILLQQLAFLVCNWLLLSG SSENFPRALICFKSEREKGTCIQVGNPSP PPTACKGHN
5779	13830	A	6577	1	2433	
5780	13831	B	6578	97	1065	MHAVHTSLLVERTILTTKERGSTLQYPL RPGAHLGLQDIVKRFKAQALIRKCSSPC NTPILGVQKPNGQWRLVQDLRLINEAVI PLYVPVNPYNLLSQIPEEAEWFTVLDLK DAFFCIPLHSDSQFLAFEDPTDHTSOLT WTVLPPGFRDSPPLFGQALAQDLGHFSS PGTLVLQYVDDLLATSSEASCQATLD LLNFLANQGYKTHSRSDAPVGFTRHL VATEKIPRGREPLSSLA VYTRGRPTRTGA RRTIVSRIRDRFRFFRYLAQREPLYQQ SLLIHLQLDSQPALSVVIGKVPNVVELTP NFGTAAQV*
5781	13832	A	6579	1	2403	
5782	13833	A	658	455	1033	GLYFGKVGEVIEQVKAFDELKALIAFFPL SSLSFLAPFVCLNLLFCFRLPLLSCLFSP GCRHLRHHCHHYLLLLLLFLSHHHHQ QQQLQAQHLSHGHGPPVPLTPHPSGLQP PGIPPLGGSAGLLALSSALSGQSHLAIKD DKKHDAEHHRGERPGKPD*DFVLILLQ CCKVVCIAKESPPLYREQTMR
5783	13834	A	6580	1	2838	
5784	13835	A	6581	1908	4698	SNDRTEDDCGKHPPMSSPPTEPWVCLII EGQEIDFLDTGTTFSVLIPCLGRLLSSRSV TIQGILGQPVTRYFSHLLSCNWETLLFSH AFLVMPESPTPLGRDILAKAGAIISMKT GNKLPICCPLEGINPEVWALEGQFGR KNAHPLQIRLKDPIFPYQRYPLRPEAH KGLQDIVKHLKAQDSVRKCSSPCNTPI GVQKLNQWRLVQDLRLINEAVIPLYPV VRNPYTLSSQVPEEAEWFTVLDLKD
5785	13836	A	6582	1529	2945	
5786	13837	A	6583	3	154	
5787	13838	A	6584	3	425	
5788	13839	A	6585	3	223	
5789	13840	A	6586	3	330	
5790	13841	A	6587	50	1740	RSPHCCLTAHMTASAARLTMMWEEVT CPICLDPFVEPVSIIECGHSFCQECISQVGK GGGSVCACVRQRFLKNLRPNRQLANM VNNLKEISQEAREGTQGERCAVHGERLH LFCEKDGCALCWVCAQSRKHRDHAMV PLEEAAQEYQVRPKRHLEKLQVALGELR RKQELAEKLEVEIAIKRADWKKTVETQK SRIHAEFVQKNFLVEEEQRLQLEKED EREQLRILGEKEAKLAQQSQALQELISEL DRRCHSSALELLQEVIVLERSESWNLKD LDITSPELRSVCHVPGLKKMLRTCAVHIT LDPDTANPWLILSEDRRQVRLGDTQQSIP GNEERFDSYPMVLGAQHFGHSGKHYWEV DVTGKEAWDLGVCRDSVRRKGHLLSS KSGFWTIWLWNKQKYEAGTYPQTPSHL QVLPCQVGIFLDYEAGMVSFYNTDVHGS LIYSFSECAFTGPLRPFFSPGINDGKNT APSNPLVPLNIGSQGSTDYWMAFSGLTP LSPHWAPASSATKPWPLFPHGTLEPLSS AEASRDPPQASFSREVTSPINIPADGVV
5791	13842	A	6588	2	472	
5792	13843	A	6589	1	239	QCCSGGTHGNPAIGDRMQKQILPWAPA QMKIRFMAPPERKYSVWIAAPILASLSTS SRMWISKQEYDESGPSIVHRKCF
5793	13844	C	659	178	360	MERPERKIXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXX

						YYSFKNLI*
5794	13845	A	6590	1	834	
5795	13846	A	6591	1	702	
5796	13847	A	6592	1	1623	
5797	13848	A	6593	1	1132	MEEIEAALVIDNGSGMCKAGFAGDDAP RAVFPSIVGRPRHQGVMMVGMGQKDSYV GDEAQSKRGILTLKYPIEHGIVTNWDDM EKIWHHTFYNELRVAPEEHPVLLTEAPL NPKANREKMTQIMFETFTNPAMYVAIQ AVLSLYASGRTTGIVMDSGDGVTHTVPI YEGYALPHAILRLDLAGRDLTDYLMKIL TERGYSFTTTAEREIVRDIKEKLCYVALD FEQEMATAASSSSLEKSYELPDGQVITIG NERFRCPEALFQPSFLGMESCGIHETTFN SIMKCDVDIRKDLYANTVLSGGTMMYPG IADKMQKEITALGPSTMKIKIAPPERKY SVWIGGSILASLSTFQQMWISKQEYDES GPSIVHRKCF
5798	13849	B	6594	635	646	MCDEDETTALVCDNGSGLVKAGFAGDD APRAVFPSIVGRPRHQGVMMVGMGQKDS YVGDDEAQSKRGILTLKYPIEHGIVTNWDD MEKIWHHTFYNELRVAPEEHPVLLTEAP LNPKANREKMTQIMFETFTNPAMYVAIQ QAVLSLYASGRTTGIVLDSGDGVTHNVP IYEGYALPHAIMRLDLAGRDLTDYLMKI LTERGYSFVTTAEREIVRDIKEKLCYVAL DFENEMATAASSSSLEKSYELPDGAGHH HRQRALPLPGDPSFIGMEVGGHFTRPY NSIMKCDIDIQEGPFMPTTFMSGGTHDVP WESLTACRKEITRAGTPAPMEDQDSFAP AGAQNTRVWIGGSILASLSTFQQMWITK QEYDEAGPSIVQPQMLDLHLQARDFS RTTNLLNGGGG*
5799	13850	A	6595	1	1284	MGDTPRQFGGARPRSGGALRGCRSRGG GNRRGLCLSRALANGDRRLTMDDDIAA LVVDNGSGMCKAGFAGDDAPRAVFPSI VGRPRHQGVMMVGMGQKDSYVGDKVAQ SKRGILTLKYRIEHGIVTNWEDMEEIWL HTFYSELHVAPEEHPVLLTEASLNPKAN HEKVNQIMFETFTNPAMYVAIQALLSLY ASGRTTGIVMDSGDGVTHTVPIYGGYA LPHTILHLDLAGPDLTDHLMKILTERGYS FTTAKREIVHDIEENLCYVALDFEQEM AMVASNPLEKS*ELPDGQVITIGNEWF RCPEALFQPSFLGMESCGIHETTFNSIM KICDVDIRKDLYANTVLSGRTPPCTLGIA DRMQKEITALAPSTMKMKIAPPERKYS VWIGGSILASLSTFQQMWISKQEYDESGP SIVHRKCF
5800	13851	A	6596	1	370	ETESRSVAQAGVQWHNLGSLQSPSPGFK RFSCSLSPSNWDYRHPPPCPANFCIFVET RFHHVGGAGLKLTLTSGDPPTLAS*IAGIT GMSHCAWPSLHIWTLFFFACPRRWGTG QVLLAAIFSQ
5801	13852	A	6597	2408	2810	IHTHTHTHTHTIFFLKR SFALVAQARVQ WRDLCSLKPPPPEFKQFSCSLPSS*DYR CPPPCPANF/SFFFVFLVETGFHHVQAG LKLLTSSDSPTLASQNAAGVTGMSHCAWP QSNKYQNNFTMIQEQQQQKE
5802	13853	A	66	275	577	GGWITRSGVQDQSGQHSVDVSL/LKKYK KLTKYGGVLL*SQLS/RRLRQDNHMPG GRSCS*PRQHHCTPAWVTVRDSISKKKK KKNNKKKKKKKKKKALLEPG
5803	13854	A	660	365	800	INVNFLEFYMTDITCFLFSYSLTLMSPIL DVLLLSLLLFLFHIAGMHILTFINHDI*VV HSFYLRH*HAMEITVYEFICLRIRYPFKAS KIFSMYNATVLFHI*CDR*LGS*IGILERS

						VGVC SVMVCIVYIRYVISSSV DAP
5804	13855	A	6600	111	426	RIYKDRAGSPAHSQC HRDPLRTSPRGPH SLPWGQAAQSDAETEATHMGAPSLGP AQLPLEPGGRGSHTTSVDSRHDSVEGFR DSRQTESPWN DEN*NL LDY GSL
5805	13856	A	6601	1	2219	
5806	13857	A	6602	1	221	
5807	13858	A	6603	2	217	
5808	13859	A	6604	101	456	
5809	13860	A	6605	62	558	
5810	13861	A	6606	2	178	
5811	13862	A	6607	1	194	
5812	13863	A	6608	59	132	
5813	13864	A	6609	3	104	
5814	13865	A	661	2	58	
5815	13866	A	6610	2	620	GFRPGDPRVRETGV LKPGMLVTFAPVN VTGGVKS VEMHHEAL SEALPGDNVGFN VKNVSVKDVRRGNVAGDSKNDPPMEA AGFTAQV IILNHPGQISAGYAPVLDCHTA HIACKFAELKEKIDRRSGKKLEDGPKFL KSGDAAIVDMVPA RPMC VESFSDY PPL GRFAVRDMRQIVAVGVIKAGDKKAAG AGKVTKSAQAQKAK
5816	13867	A	6611	293	384	
5817	13868	A	6612	39	543	QVAMGNLSGLRLAAGSCFRLCERDVSSS QRLTRSSDWKG\NGFCVTKPTGKVP GAP IPALTNRVPFNTKPTDWQKKRPLIWSRS PSKMEDEIPQ\SLSPLEDALNACQRTKMP SERSSLSQWICPDGGMDC\FMVIEGQK\ AA\QRHDDFTQA*TLEKKARLERGKQL
5818	13869	A	6613	1	194	
5819	13870	A	6614	71	1145	NLRREPTNSRTLTVGATAGSITMKRLVC VLLVCSSAVAQLHKDPTLDHWHWLWK KTYGKQYKEKNEEAVRRLIWEKNLKFV MLHNLEHSMGMHSYDLGMNHLGDMTS EEVMSLMSSLRVPSQWQRNITYKSNPNR ILPDSVDWREKGC VTEVKYQGSCGACW AFSAVGAEALQLKLTGKLVLSAQNLV DCSTEKYGNKGCNGGFM TAFQYIIDNK GIDSDASYPYKAMDLCQYDSKYRAAT CSKYTEL PYGR* DVLKEAVANKGPVSV V\ADARQPSFLPLQESGVYDPSCTQNV NHGVLVVG YGDLNGK\ EYWL V*NSWGP WFGEEGYIR/LWARNKGNHCGIASFPSY PEI
5820	13871	A	6615	2	289	
5821	13872	A	6616	2	125	
5822	13873	A	6617	9	106	
5823	13874	A	6618	2	505	
5824	13875	A	6619	1	104	
5825	13876	A	662	218	342	
5826	13877	A	6620	1	109	
5827	13878	B	6621	99	285	MPRKIEEIKDFLLTARRKDAKSVKIKKN KDNVFKVRC SRYLYTLVITDKEKAEKL KQSLPXX*
5828	13879	A	6622	239	449	NCGNQRTSLRHRPTK RMPNSCQDPRKIR TLVKFKVRC SRYLYTLVITDKEKAEKLK QSLPPGLAVKELK
5829	13880	A	6623	1	104	
5830	13881	A	6624	1	109	
5831	13882	B	6625	99	285	MPRKIEEIKDFLLTARRKDAKSVKIKKN KDNVFKVRC SRYLYTLVITDKEKAEKL

						KQSLPXX*
5832	13883	A	6626	239	449	NCGNQRTSLRHRPTKMPNSCQDPRKIR TLVKFKVRCSTRYLTYLVTITDKEAEKLLK QSLPPGLAVKELK
5833	13884	A	6627	2	129	YGPTHASGAMLRSCAARLRTLALCLPP VGRRLPEASRDPS
5834	13885	A	6628	1	289	
5835	13886	A	6629	6	418	RRLMRDFKRLQEDPPVGVSGAPSENNIM QWNAVIFGVTFKL VIEFP EYPNKPTVRF LSKMFHPNVYADGSICLDILQNRWSPTY DVSPILTSIQSLLEPNPNPSPANSQAAQL YQENKREYEKRVSAIVEQSWNDS
5836	13887	A	663	527	665	
5837	13888	A	6630	3	330	ARRRLMRDFKRLQEDPPVGVSGAPSEN NIMQWNAVIFGVYADGSICLDILQNRWSP TYDVSSILTSIQSLLEPNPNPSPANSQAA QLYQENKREYEKRVSAIVEQSWNDS
5838	13889	A	6631	51	418	
5839	13890	A	6632	3	141	
5840	13891	A	6633	1	581	HSDSAAAPGGGGAARDFFFFQTDRRGSC GACSTPARRRLMRDFKRLQEDPPVGVVS GAPSENNIMQWNAVIFGPGVTPFEDGT F*LIVIEFSEYYPNKPPATVRVFIPKMFSP NVYA*WVGICLDILQNRWESQHMDVS FLSLTFNSVSGWDEPNP*QSSPIAQAQQL YQENKREYEKRVSAIVEQSWNDS
5841	13892	A	6634	2	266	YCGPL*SVWVARNPFGAFVEFEDPRDA AGVV*ELDGRTLCPGPSWGHPR*DDYC RRGLPPRRPPRRRLNLSCSRSLSPWT LSL
5842	13893	A	6635	3	164	
5843	13894	A	6636	1	947	IFLVFFITEMHRDSCPLDCKVYVGNLGN NGNKTELEAFGYYGPLRSVWVARNP GFAFVEFEDPRDAA*V*YLCPLRTLGC RVRVELSNGEKRSRNRGPPPSWGRRPRD DYRFPSMLFSLSLNLNQIGSSHLDRPHI PGQSAQLFIYQMSSQQLQQPSANKKAG KIHNTPFANQLNPTATSGQNLFRQILGP SVRAGLTFTISSLLKPKTNLQEGEASLAA GAGPFLEIGEERDRCLGREITSRPDPSLGL VVDLGQMKGNRRQFAREVVRKLLHLT GVCTENFKFCLRLHLKGAFLRCFSCSNL FVS
5844	13895	A	6637	1	282	
5845	13896	A	6638	116	561	PLDLEMHRDSCPLDCKVYVGNLGNNG NKTLELAFGYYGPLRSVWVARNP LAFVEFEDPPRMQLDAVPRS*DGKNTNV ACPCKEWELVRMGEKRSRNRGPPPSL/ WGRPRDGFIRREGVPPTLFGSPRKG RFLFAARSRLS
5846	13897	A	6639	126	376	VLLARLQANGANTVELSAEWTFPSGYV GSVLPQGHREPNA/CLSFSKFRVLGSAP FLINRRTASNCVNRYCRLAATWRAVLPL
5847	13898	A	664	1233	1706	CLVFWLLYYPLQLPFIHLLPHSLGSGQQ SSEESAATPSLAEGRREAAFRCPAGLA RQAWRPHARLPGAAPLAAPSLAPLPTG RSGRWLPMCAASC*SPSPAMSVYPQRR LGQGAEDSEGGPVSRGCRAPGPQRPLA APGEQTAARTQAICLIW
5848	13899	A	6640	464	781	AFAFTKDRQLGSSKKRRMSSRFASSAAK CRAVRPLLRSRRFPVPMPPGPVVSSTK LGSRLGRHQASCRG*SQRAR*SGLTGPT HMEPNKVRSTGLKFLPAQQS
5849	13900	A	6641	201	318	EINLTNFI CFSSRSDVS*RESPFSRELHRIS SISLEPG

5850	13901	A	6642	1	1714	
5851	13902	A	6643	1	789	
5852	13903	A	6644	1	293	SPEMESHPIITQAGVQWHNHSSLQPEIPGL KQSSHLSPSSWDHR*EPLPWPKNIFKM LIL*IGFSHVIGNNGTYLYQSINNVEGPLK RSQKDRSCGN
5853	13904	A	6645	1	252	
5854	13905	A	6646	1	1974	
5855	13906	A	6647	3	320	
5856	13907	C	6648	238	324	MADLPIFLVEFSCFIHYFNGSFMFSQKK*
5857	13908	A	6649	1	1088	
5858	13909	A	665	598	1159	CRQTGVKIYDVWFFWLLYYPGLQLPFHL LPHSLGSGQSQSSEESAATPSLAEGRREAA FRCGPAGLARQAWRPHARLPGPAAPLA APSLAPLPTGRSGRWLPMCAASC*SPSP AMSVYPQRRLGQGGGAEDSEGGSVSRGC RAPGPQRPLAAPGEQTAARTQASVYLL PHSPPLLSALHHHLLPPS
5859	13910	A	6650	1	368	
5860	13911	A	6651	3	243	
5861	13912	A	6652	24	288	
5862	13913	A	6653	2	272	
5863	13914	A	6654	965	2737	AASPGVLVCPQARTYIQSLPPALDVQLTP LPTTGFPAAIDLLGRMLVLDSDQRVSA EALAHAYFSQYHDPEDPEAEPPGCGGR HKLTLSLHLELTYQEVLSWDEAAGRRS PPPALPRLRPSPGSGPPAAAASGFRRW AAPGPAMSSPPPARSGFYRQEVTKTAW VRAGACAGCPAFPLSGPPRSSAVDGRGT AKVAIKKLYRPFQSELFANPARVLCILN PMWPPQVIGHAEAGSVR*QRSGPSHSYL VMPFMGTDLGKLMKHEKLGALRGCAE ACHHAWEGGAQWPPFLCPHRS LGVP*N PPPQFFPQILDFGLARQADSEMTGYVVT RWSHPVPLTELTRASISVDIWSVGCIMA EMITGKTLCSGPGGSGGPDWPPSCVP DLGADLDQLKEIMKVADLGLGVGPSFPL PTQAKNYMKGLEWSVGPVVPDAPS PAAVNLLKMLVLD AEQRTVAGEALAH PYFESLHDTEDPQVQKATTDGSPSLPSDP HASPGLHGLGDVIAISSGATLTCGMAAV HTGPKVWAHRWPEDWGVAFALQTPRPP RLSPQVFLRPGRVGLGAALDPDPGWGA GRDL
5864	13915	A	6655	3	229	
5865	13916	A	6656	27	142	
5866	13917	A	6657	3	308	
5867	13918	A	6658	192	310	
5868	13919	A	6659	88	1506	ACGRFGFPEGPEGGRGRHVRAARGPVG PRAGEGPCA WVGVP GSAPGTS LREG PGAGAPQRPAGGRASGRAARSRPEAR EGAPSPVVGAPPAGSAGWAAPGPAMSS PPPARSGFYRQEVTKTAW EVRAVYRDL QPVGSGAYGAVCSAVDGRGTGAKVAIKK LYRPFQSELFKRAYRELRLKHMRHEN VIGLLDVFTPDFTLDDFTDFYLVMPFMG TDLGKLMKHEKLGEDRIQFLVYQMLKG LRYIHAA GIIHRDLKPGNLAVNEDCELKI LDFGLARQADSEMTGYVVTRWYRAPEV ILNWMRYTQTVDIWSVGCIMAEMITGKT LFKGSDDLQKEIMKVGTGPPAEFVQR LQSDAEAKNNMKGLPELEKKDFASILTNA SPLAVNLLKMLVLD AEQRTVAGEALA HPYFESLHDTEDPQVQKYDDSFDDVDR TLDEWKRVITYKEVLSFKPPRQLGARVS KETPL

5869	13920	A	666	358	644	RRSLALSPSPECSDVISAHCKLCLPGTFPF SCLSLSSWDYRCPPLANFFVFLVET GFHRVSDGLDLLTS*SARLSLPKCWDY RCEPPRPA
5870	13921	A	6660	71	921	
5871	13922	A	6661	2	310	
5872	13923	A	6662	5517	5831	
5873	13924	A	6663	1	625	CKFIRVMAHTRLRLPLRRKKAHLMEIQ VNEGTVAEKLDWARERLEQQVPVNQVF GQDEMIDVIGVTGKGKGYKGVTSRWHTK KLPRKTHRGLRKVACKDGLIKNNAST DYDLSDKSINPLGGFVHYGEVTNDFVML KGCVVGTKKRVLTLRKSLLVQTKRRAL EKIDLKFDITTSKFGHGRFQTMEEKKAF MGPLKKDRIAKEEGA
5874	13925	A	6664	1	1261	MSHRKFSAPRHGSLGFLPRKRSSRHGK VKSFPKDDPSKPVHLTAFLGYKAGMTHI VREVDPRGSKVNKKEVVEAVTIVETPPM VVVGIVGYVETPRGLRTFKTVFAEHISDE CKRRFYKNWHKSKKKAFTKYCKKWQD EDGKKQLEKDFSSMKKYCQVIRVIAHTQ MRLPLRQNKALM*IQVNGGHCGPRS WDWPPREGLKQQTVDPSVLGRNKMID VIGVTQGPKGKGGHPVVWHTQESCPR KD/HHPRACRKGHVLGAWHPARVAF SVARAGQKGVYHHRTEITKKD/IYKIGPG LSPLFRTAKVIKGTIASTDYDLF*QEASTP PGGFVHYGEVTNDFVMLKGCVVGTCK RVLTLRKSLLVQTKRRALEKIDLKFDIT SKFGHGRFQTMEEKKAFMGPLKKDRIA KEEGA
5875	13926	A	6665	1	168	
5876	13927	A	6666	3	203	
5877	13928	A	6667	3	523	LQFFRRSEVKMKNHLLFWGVLAVFIKA VHVKAQEDERIVLVDNKCKCARITSRIJR SSEDPNEDIVERNIRNIVPLNNRENISDPT SPLRTRFVYHLSDLCKKCDPTEVELD NQIVTATQSNICGWMTPVQSTCYTLSTG NKCYTAVVPLAVYGGETKMVETALTPDA CYPD
5878	13929	A	6668	3	276	
5879	13930	A	6669	2	152	
5880	13931	A	667	55	288	PFKKGGFFNGNLPPTFGKLGNKKFPLNL FPGGPPLPHGGLKKGPGAPQVPPLFLKK PQTSPP*GLREGPPPLKKFYLF
5881	13932	A	6670	1	936	
5882	13933	A	6671	1	1023	
5883	13934	A	6672	106	125	KYLEQCLKHGKSS*HSILOANFFASEND RAKMK*KPCFYKCF*AITFLREDWDYRR EPLRLAYPVYFLTCKIRIMYTHLKDYTG H
5884	13935	A	6673	3	155	
5885	13936	A	6674	3	266	
5886	13937	A	6675	5	160	RDLGSLQPPPGFK*FSCLRLPSPQVQRC CVPSPWLLEQMITAWGASIHNR
5887	13938	A	6676	1586	2220	
5888	13939	A	6677	3	441	
5889	13940	A	6678	1	91	
5890	13941	A	6679	2	226	
5891	13942	A	668	2	385	ARGEPTMELSHADTTNVKAAWGWVGA HAGE*GADVLVRMVLCLPTIWTYFPYFD LSHGCAQVNGHGKKVADALTNVAVHV DDMPNSLIGLSELHAH*LLVDPVNFLL NHCLLGTLADHLLDEFTPAV
5892	13943	A	6680	3	187	
5893	13944	A	6681	2	209	



5894	13945	A	6682	2	702	FVSVPSVLLGLQFWRSERD/TARLQSAR WRVERGRLKELLSRQRP RRREEVVGR EVCRTMEVRASLQKIVSNGDEQLEKA MEEILRDFEKRPSLLVDCQSSSEISDHSF GDIPASQTNKPSLQLLDPSNTEISTPRPSS PGGLPEEDSVLFNKLTYLGCМКVSSPRN EVEALRAMATMKSSSQYPPVTLYVPN VPEGSVRHILSLLGGGEDVIASSGVELTV NSHCRHAE
5895	13946	A	6683	3	497	
5896	13947	A	6684	1	224	
5897	13948	A	6685	1	789	
5898	13949	A	6686	1	7500	
5899	13950	A	6687	1	8175	
5900	13951	A	6688	3	598	QCGGIRATTMAMSFEPWPQYRFPFFFT LQPNVDTRQQLAAWCSLVLSFCRLHK QSSMTVMEAQESPLFNNVKLQRELPVE SIQIVLEELRKKGNLEWLDKSKSSFLIMW RRPEEWGKLIYQVWSRSGQNNSVFTLYE LTNGEDTEDEEFHGLAEKPLLRALQ/CP YSREHKAEIHHCSGDGRGVQVLLGRDLS PFTS
5901	13952	A	6689	2	356	
5902	13953	A	669	787	896	LLYNIYCGEKKREERKD*PGQHGETPSL QKIQLAG
5903	13954	A	6690	2	123	
5904	13955	A	6691	161	464	
5905	13956	A	6692	3	86	
5906	13957	A	6693	3	85	
5907	13958	A	6694	2	201	
5908	13959	A	6695	1	119	
5909	13960	A	6696	1	3414	MEPNDSTSTAVEEPDSLEVLVKTLDST RTFIVGAQMNVEKFEHIRASVSIPSEKQ RLIYQGRVLQDDKKLQEYNVGGKVIHL VERAPPQTHLPSGASSGTGSASATHGGG SPPGTRGPGASVHNRNANSYVMVGTFN LPDGSASVDVHINMEQAPIQSEPRVRLV MAQHMIRDIQTLLSRMETLPYLQCRGGP QPQHSQPPPPPAVTPPEPVALSSQTSEPV ESEAPPREPMEAEVEERAPAQNPELTPG PA
5910	13961	A	6697	1	441	
5911	13962	A	6698	2	180	
5912	13963	A	6699	1	143	
5913	13964	A	67	1016	1461	VSHSHLSSPQFNHNLNRRPTRIPLSPQPK* GPAYSRPPVWTPAEPEALRWGRHRGP*K ARGSRPSSAHSGWRPRGEAPHRTGTAQP PTAVPCRRHLGEDSTPGPPGALGGVGF PSASP/PVPTPT*TQTGRRPETQLRQQTPR GAPPA
5914	13965	A	670	539	786	SIGRLRRVGHLRSGVRDQPGQHGGTPSL LKIQKFAGHGGAFLYSQVLGRLRQENRL NSRGGGCSSESGSQHYTPAWVTE*DSI
5915	13966	A	6700	2	1069	SLVERLKMAASQAVEEMRSRVVLGEFG VRNVHTTDFPGNYSYDDAWDQDRFEK NFRVDVVHMDENSLEFDMVGIDAAIAN AFRRILLAEVPTMAVEKVLVYNNTSIVQ DEILAHRLGLPIHADPRLFEYRNQGDDEE GTEIDTLQFRLQVRCTRNPAAKDSSDP NELYVNHKVYTRHMTWIPLGNQADLFP EGTIRPVHDDILIAQLRPGQEIDLLMHCV KGIGKDHAKFSPVATASYRLLPDITLLEP VEGEAAEELSRCSFGVIEVQEVQGGKV AQSCPTPRLDTFVSREIFRNEKLKVVRL ARVRDHYIFSVESTGVLPDVLVSEAIK VLMGKCRRLDELDAVQMD

5916	13967	A	6701	197	310	WLCYIIYK*YDNWWHSMCFSKPLYPEIV SLNYILLKG
5917	13968	A	6702	3	67	
5918	13969	A	6703	3	517	
5919	13970	A	6704	150	840	GSLSPDMANKGPSYGMSREVQSKIEKK YDEELEERLVEWIIVQCGPDVGRPDGR LGFPVWLKNGVILDRL*TTFTPDASKPV KVPEKPPPCSSSKTEPLPHFLKAAEDY GVRPKSNIFQDL*TSLKGDMDGSSSRGP LMAFGQLWQVTKNDDGHRGDPNWFY ERKPQQHKREFHRRALQKQKACPLAL PDGAANRRGPPQARH*QGYGTTLGQIHK LEAERAKP
5920	13971	A	6705	3	842	
5921	13972	A	6706	1	570	
5922	13973	A	6707	1	1437	
5923	13974	A	6708	3	286	
5924	13975	A	6709	172	364	FYLYLVMLCFIEPVKLLIVGAYIL*LLKT IHEFHNCQCFVDTKSLKGRHFKEYVFFTL NMFHR
5925	13976	A	671	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFDSFGNLSSASAIMGN PKVKAHGKKVLTSLGDAIKHLDLKGTF AQLSELHCDKLHVDPENFKLLGNVLTV LAHFGKEFTPEVQASWQKMTGVASA LSSRYH
5926	13977	A	6710	1	683	
5927	13978	A	6711	18	292	
5928	13979	A	6712	1	687	
5929	13980	A	6713	1	119	
5930	13981	A	6714	1	339	
5931	13982	A	6715	3	470	
5932	13983	A	6716	2	2942	TGAPAWPSRRLDLPAGGMWRLRRAA VACEVCQSLVKHSSGKIGSLPLQKLHLV SRSIYHSHHPTLKLQRPQLRTSFQQFSSL TNLPLRKLKFSPIKYGYQPRRNFWPAL ATRLLKRLYLILGSAVGGGYTAKKTFDQ WKDMPDLSEYKWIWPDIVWEIDEYIDFE KIRKALPNSEDLVKLAPDFDKIVESLSLL KDDFTSGSPEETAFRATDRGSESDKHFRK VSDKEKIDQLQEELLHTQLKYQRILERLE
5933	13984	A	6717	38	359	
5934	13985	A	6718	122	282	
5935	13986	A	6719	2	1010	
5936	13987	C	672	336	728	MGLPKTGHHQHFQPELESSSRIPHAGLS QVQVHFRLGQRCLRSSQVLLWHLPRK VSTFLPCALTLGVAHGWQRQRTGCQSC QRTSGSMGRQPGAFPGFLLQHLSTFLP HRLCDSSLVLLCEMTHGRLD*
5937	13988	A	6720	326	513	
5938	13989	A	6721	1	1076	
5939	13990	C	6722	11	79	MLPILRHTFLRVTLRGKKACLL*
5940	13991	A	6723	3	198	
5941	13992	A	6724	1	432	
5942	13993	A	6725	123	336	
5943	13994	A	6726	1	227	
5944	13995	A	6727	1	131	MPVLLTSDEMHKSSVKAGFAKVDQQQA PKSVQLLTVKTRDSTSNRGNSSGPRSQAT DRICRTPYHFEDC*SGSTASPVSSASDS EDKRLNK
5945	13996	A	6728	3	364	
5946	13997	A	6729	2	197	
5947	13998	A	673	1	1254	
5948	13999	A	6730	2	421	
5949	14000	A	6731	33	294	

5950	14001	A	6732	2	670	
5951	14002	A	6733	1	171	
5952	14003	A	6734	1	789	
5953	14004	A	6735	3	363	
5954	14005	A	6736	2	379	
5955	14006	A	6737	116	373	
5956	14007	A	6738	1	164	
5957	14008	A	6739	3	122	
5958	14009	A	674	1	921	
5959	14010	A	6740	83	2455	
5960	14011	A	6741	83	2450	IRIAALDDFRTSLTMSSTRSQNPGLKQI GLDQIWDDLRAQIQVYTRQSMASRY MELYTHVYNYCTSVHQFVGLLEYKRLK EFLKNYLTNLLKDGEDLMDESVLKFYTQ QWEDYRFSSKVLNGICAYLNRHWVRE CDEGRKGIYEIYSLALVTWRDCLFRPLN KQVTNAVVLKLIKERNGETINTRLISGVV QSYVELGLNEDDAFAKGPTLTVYKESFE SQFLADTERFYTRETEFLQONPVTEYM KKAEARLLEEQRVQVYLHESTQDELA RKCEQVLEKHLEIFHTEFQNLDDADKNE DLGRMYNLVSRIQDGLGELKKLLETHIH NQGLAAIEKCGEALNDPKMYVQTVLD VHKKNALVMSAFNNDAGFVAALDKA CGRFINNNAVTKMAQSSSKSPELLARYC DSSLKKSSKNPEEALEDTLNQVMVVK YIEDKDVQKFYAKMLAKRLVHQNSAS DDAEASMISKLKQACGFYTSKLQRMF QDIGVSKDLNEQFKKHLTNSEPLDLDFSI QVLSGSGWPFQSQCTFALPSELSYQRF TAFYASRHSGRKLTLWLYQLSKGELVTN CFKNRYTLQASTFQMAILQYNTEDAYT VQQLTDSTQIKMDILAQVLQILLKSKLLV LEDENANVDEVELKPDTLIKLYLGYNK KLRVNINVPMTQEQKQEQETTHKNIEED RKLLIQAAIVRIMKMRKVLKHQQLLGEV LTQLASSRFKPRVPVIKKCIDILIEKEYLAE RVADGEKDTYSYLAALTSGKGLDLCDPQ QIVHVGKE
5961	14012	A	6742	3	318	
5962	14013	A	6743	17	174	
5963	14014	A	6744	3	711	LSSCLCGSGKAFGMPTMRLLSFVVLAIF AVTQAEEGARLLVSKSLNRYAVEGRD LTQYNIYNVGSSAALDVELSDDSFPED FGIVSGMLNVKWDRIAPASNVSHTVVLR PLKAGYFNFTSATITYLAQEDGPVVIGS TSAPGQGGMLVQREFDRRFSPHFLDW AAFGGHDPPPSGIPLLLWYSSKRKYDT PKTKKNLIWGFHKPSSPKKSKAPLPKKP QVLSQTPKGYF
5964	14015	A	6745	74	471	
5965	14016	A	6746	1	1371	MAENDVDNELLDYEDDEVETAAGGDG AEAPAKKDVKGSYVSIHSSGFRDFLKP ELLRAIVDCGFEPSEVQHECIPQAILGM DVLCAQKSGMGKTAVFVLATLQQLP TGQVSVLVMCHTRELAFQISKEYERFSK YMPNVKVAVFFGGLSIKKDEEVLLKNC PHIVVGTGPRILALARNKSLNLKHIKHFIL DECCKMLEQLDMRRDVQEIFRMTPEHEK QVMMFSATLSKEIRPVCRFMQDPMEIF VDDETKLTLLHGLQYYVVKLDNEKNRK LFDLLDVLEFNQVVIFVKSQVQRCIALAQL LVEQNFPAAIHRGMPQEERLSRYQQFK DFQRRILVATNLFGRGMDIERVNI AFNY DMPAEDSDTYLHRVARA'GRFGTKGLAI TFVSDENDAKILNDVQDRFEVNISELPD EIGHLLPTLEQDVEDSPILGMLTVCFSQ

					GGGTPGWG
5966	14017	A	6747	2	139
5967	14018	A	6748	3	270
5968	14019	A	6749	21	301
5969	14020	A	675	659	1601
5970	14021	A	6750	4	366
5971	14022	A	6751	3	263
5972	14023	C	6752	54	161
5973	14024	A	6753	161	1122
5974	14025	A	6754	1	891
5975	14026	A	6755	2	104
5976	14027	A	6756	957	1285
5977	14028	A	6757	1	716
5978	14029	A	6758	2	835
5979	14030	A	6759	759	1022
5980	14031	A	676	1	1335
5981	14032	A	6760	2	689
5982	14033	A	6761	2	1011
5983	14034	A	6762	2	151

5984	14035	A	6763	3	740	RPIGEFRSNADYQYQLLRNCNVDLLKIIQL GLTFMNEQGEYPPGTSTWQFNFKFNLTE DMYAQDSIELLTSTSGIQFKKHEEEGIETQ YFAELMTSGVVLCEGVKWLSEHSGYD FGYLIKILTNSNLPEEELDFEILRLFFPVI YDVKYLMKISCKNLKGGIAQEVAEQLAE LERIGPQHQAGSDSLTGMMAFFKMREM FFEDHIDDAKYCGHLYGLGSGSSYVQN GHRGMHMEEGSQQGSPTWK
5985	14036	A	6764	296	522	IWVFHNLKGLFEIFCCILKYFLEELLILF* KTKL*KHASFLKNNPSIQDMESSTTVHRS GLGSLCADVLSLQWL
5986	14037	A	6765	3	333	
5987	14038	A	6766	1326	1980	TSEASRQSERVDSAALSALSLLSRSSKCR PWGTARVARAGGCLTLLSRRFLETRPF TGPWDPGLGVTCWCCPPKRRLKSTPRPK FSVCVLGDQHCDEAKAVDATFEVCLG DQVLSNANGFLSLSAKKYDAFLASESLI KQIPRILGPGLNKAGKFPSSLREEGQAIC YSSTNLT*SSLPSSQVLCIAVAVGHVKM TDEELVYNHILAVNFLVSLK
5988	14039	A	6767	11	713	EAMSSKVSRTLYEAVREVLHGTQRKR RKFLAETVELQISLKNYDPQKDKRFSGT VRLKSHSPALSFSVCVLGDARQHCDNEA KA\VDIP\HMD\NEALEKTSTKNKKLVKK AGQRKYDAVFGPQSLLIKQIPRIPRAPGL NKAGK\FP\SL\THNENMVAKVDEVK\IS PIK\QMKKVLCIAVAVGHVKMTDEEL VFNIHLA\VNFL\VSLK\KNWQKCSGAL YYQEAPMGQSPKRLY
5989	14040	A	6768	2	277	
5990	14041	A	6769	1	336	
5991	14042	A	677	1	811	
5992	14043	A	6770	132	347	
5993	14044	A	6771	3	109	
5994	14045	C	6772	5	160	MGFEGGPKILNWKFKKVXQXSCLXKG QXESIFLNTXKVIRAGDTXKSVLG*
5995	14046	A	6773	52	310	YIIRTQTQISHHPLHYILGSAKKKLCFGKS YFIRGSSFRKGQGEERGLKYKKKTGEG V**KRTKKQTKTKTKIKYKLSRCCGNV
5996	14047	A	6774	149	333	
5997	14048	A	6775	1	1616	LFFFFFFLESTRFY*FFFFFFFTIQTFKGG PLSPFFLLFFIKPLPQFFFIL
5998	14049	A	6776	2	138	ASGHREVQDSYEAYGQDDWNGTITSLK/ APPARPVKGAYREHPYGRY
5999	14050	A	6777	1	1212	
6000	14051	A	6778	3	150	
6001	14052	A	6779	2	1622	ASVATAPALPPPPTAARASVAAASLSRSL DRTSSQMQRDDPAARMSRSGRSGSM DPSGAHPSVRQTPSRQPPLPHRSRGGGG GSRGGARASPATQPPPLPPSATGPDATV GGPAPTLLPPSATASVKMEPENKYLPEL MAEKDSLDPSTHAMQLLTAEIEKIQKG DSKKDDEENYLDLFSHKNMKLKERVLP VKQYPKFNFVGKILGPQGNITKRLQET GAKISVLGKGSMRDKAKEELRKGGDP KYAHLNMDLHVFIIEVFGPPCEAYALMA HAMEEVKKFLVPDMMDDICQEQLFELS YLVNGVPEPSRGRGVVVRGGAAPPPPV PTGRGVPPRGALVRGTPVRGAITRGAT VTRGVPPPPTVRGAFCV*RARTAGVQRIP LPPPPAPETYEEYGYEDTYAEQSYEGYE GYYSQSQGDSEYDYGHGEVQDSYEA LWPRTNWNTRPSLKAPLARPVKGAAY REPPYGRLLKTKHEGENISYEQSLLLDFL YLPGIPVALPTTDQGNWSKCFFRGSPSF SPTLIPFL

6002	14053	A	678	269	561	LSFVGSLSRLFTAGFAECPRFRFRPAPNP RTPSTRNSAPDSQKGATWATAVQAAPR WT*ETGSNPWPTLAAPCSRSPRGPPASFS GGPSASCKCLK
6003	14054	A	6780	1	76	
6004	14055	A	6781	1	287	CFL*DRVLLCHPGWSAVAHNHSSLP*T PGIKQFSCRL/SSS*DYRCTSPYLAIFFF *FFCRKQSLATVPRTSNSWPQAILLSWS KHVEITGF
6005	14056	A	6782	3	64	
6006	14057	A	6783	2	69	
6007	14058	A	6784	1576	3458	
6008	14059	A	6786	1	960	
6009	14060	A	6787	507	755	NKRGYKQMEEHSMMLGRKNQYRKNH TAQGNL*IQCHPHQATNDFLHRIGKND QVHMEPKKSPHRQVNPKEQSWRHHA T
6010	14061	A	6788	274	882	PDQVDRGGAHWQTDADDPWLADHLQH CQRCGEILRHYSGGIRGNVSAVKAEHH VPAFARLRNPQCGDFQRLDYRLFDSPGV KRREL*TA YRFCHVAP*LMDLRSGWAA GAVYRYQSH*FTADRLRSVDMDEAGN HHSQQTSDQKIKQRTFSLISGS*TTRTH GHREGNITHRGLSRPNTARILCASKAHL GLPLRSSLP
6011	14062	A	6789	114	329	
6012	14063	A	679	415	1094	SKSRMSAEVIHQVEEALDTDEKEMLLFL CRDVVAIDVVPNVRLDILTERGKLSV GDLAELLYRVRFDLLKRILKMDRKAVE THLLRNPHLVSDYRVLMAEIGEDLDKSD VSSLIFLMKDYMGGRGKISKEKSFLDLV ELEKLNLVAPDQLDLEKCLKNIHRIDLK TKIQKYKQSVQGAGTSYRNVLQAAIQKS LKDPSNNFRMITPYAHCPDLKILGNCSM
6013	14064	C	6790	1	1983	MGDGTSDFDPIGDIGIRQSNYSCGGCPRI PYVWRVTGRAHGTQTI VVMAKVYYG NVMRREKDSGGAWGNPWAGILLPPPST RNCTVHSSFSNENIFPQHTSSCVVHNQ YIGADFPWSNFSFVVEYNYVEDSCWTK HCKELNIPYMAFKVILPDTVLERSTLLDR FGGFLEIQIPYVFFASEGLLNTPDILQLL ESKDMDEAGNHHEQTVTRTENQTLHV LTHR WELNNENTWTQDGEHHTPGPVVG WRELIIAPGVEATALIIRQIADHSLMTSKR DPHEWLDKSWLKVSPSEENRNQISTLSS QSSASDLDSVIEHNEYQYLGLGETVQ EDKTTILNDNSSIMELKEISSFLPPVTSYN QTSYWKDSSCKSNIGQNTPFLINIESRRP AYNSFLNHSDSESDVFSGLTQMNCETI KSPTDTQKRVSVPFRINSQKRRTHEAK GFINKDVSDPISLEGTSPLHWNFKKNI WEQENHPFNLQYGAQQTACNKLYSQKG NLFTDQKCLSDSEGLTCESSKDETFW RELPSVPSLDLFRASDSNANQKEFNSLYF YQRAGKSLGQKRHHESFNSGDKESLTE EKTEAQEKMTTEDRGRGWGYATTNRR MPRIAQNHQEPGERRGTPPPSEAFEGSNP ANTLILDFPPPEL*
6014	14065	A	6791	190	486	FLHFFLHD*YSSNKLQKVNKSIPPTGPS LCPCVLIVQLPLMSENMRCLVFCSCVSL LRMMVSSFIHVPLNFFNAFLLLNFFRFCP LLSCHMIKKSSS
6015	14066	A	6792	1	597	

6016	14067	A	6793	1	721	MTSYNEQNKKPVTDPNEMAIHEDSNQE FKIAVVNETQRSRSPSTEHLMTPLPT REQQPPLTVIFHYLPKSYKTAPPLSFPDS LFGLSQPAPRDMDEAGNHHSQQTKQEQ KTKHCFSLTSGS*TMRTGHREGTVIH RGLLGQFSQQLINKSEFSNTVCREKSGR VLQVNMEPL*MIQDALQDQTPKGPIT VFL*LFYLDHLLRSSHKVASYLSTESRSR GSITVLFIRCSEP
6017	14068	A	6794	417	696	DRNRKANTACFQHSQVGVEQ*EHMDTG KV*SI*YGNYEHTSTCERMEIQKATTEHL NL*S*SGSFLRFTWKMLQFSKISRIFYQV LKHQQKIM
6018	14069	A	6795	325	1489	RSPTLLMHVHYIKVISWRELLIWLRAA NASINPGVEQSPSGDPKTVTGFPFLRLA ADWVEEASVPKGVHIALSSQEQRAGDP RDLEAPSNLVISERTHRSFRVSWTPPSDS VDRYKVEYYPVSGGKRQEVVRTPGVDP LRLPAIPQAAWLLAHLPAAPSAPTELPT KHTEAQSQRCSLLCSVTEVAAPSQV VKEAPSPFHTGTENGYQGEESLFNKAYY GGGTNFRKESQKLQSSAKKRDAELAN GALGHIENNDYTLKKVMKPLITSNTVTD EIERANVFKMNGKWYLFDSRSGSKMTI DENKIPRNPTYKGREGPLQGELOTTAQG NKRGYKQMEEHSMMDRKNQYRENGL TAQAPQPPPSGI*GYTAPCFPWENLI
6019	14070	A	6796	274	716	QACYIYTEYYAAIKNDEF/TVLCRDM EAGNHHSQQTVTRTKNQTPHVLTHRWE LNNENTWTQEGEHHTPGPVM LDSAPPTL GHQTPGSSAFGLWDLHQRLRLPRPQTKG STVGFPGSEAFKLGGLGHYWLSFFPSLQT AYRGTLFPNH
6020	14071	A	6797	1	870	
6021	14072	B	6798	328	2283	MKLEAIIKSLTQEQKNQTLHVLTHRWE LNNENTWTQGGGEYHTLGPVDGFQKKEE AAIGAILQPLLVIQTVLGVDLQQTADLQ QRGLLEKLTNRKKIAHTVRDHIQREHN SSPAREQNWMENFTDELTVGFRRWVI NSSELKEHDLTQCKKGTWMMLETIFSK LTQEQKNQTLHVLTHKWELNNENTWTQ GGEHHTLGPVWRMFQYVVAERMLDKI PSLAFGLDLRQWFARGCWSFGHRLKA ARITAPRLAREQNWMENFDKLTVEVFR RWVITKSKLKEHALTQCKEDKNLEKKEL ATQQKMSSRTASEASSVFTATPHCYHYY LSSASYHISGSIRFPVLEKIRLHMGLNK CKVLLSGSSSQMYGDLEGGWNGKV VFPWSWAVQEPASPPTLGQISLTVCCST VNGLPASVDVFFCREALPRNLQKFPKD LGCILLQYIDNLLGYSTAVGCARRMDA LLRHLED CGYKVSCKKAQICRQQTEGEQ TIRERWIKLSDGRJAVPQLGAADVLA HKTILHGOESLEKLLGQYFYISHLPALAK TVAQQCVCQQRHAKQGPSVPPGIQAY RVASFENLQVDFTEMPKCGDQGLERGST VALVEGTPDHYPDHSHSYKGRRNPKLD SHSCVKPATAKT*
6022	14073	A	6799	2	472	
6023	14074	A	68	241	492	GGQIMRSGY*DHPG*/HGETRSLKINQKL AGHGGRLH*SQLLRRPRLNRLNLGGRG CSEPSSRHCTAAWATE*DSVSKKKKSRR

6024	14075	A	680	551	1706	SKSRMSAEVIHQVEEALDTDEKEMLLFL CRDVAIDVVPNVRLDLDIFT/RERGVLS VGDLAELLYRVRFDLLKRILKMDRKA VETHLLRNPHLVSDYRVLM AEIGEDLDK SDVSSLIFLMKDYMGRGKISKEKSFLDL VVELEKLNLVAPDQLDLEKCLKNIHRI DLKTKIQKYKQSVQAGTSYRNVLQAAI QKSLKDPSNNFRLHNGRSKEQRLKEQLG AQQEPVKKSIQESAEFLPQSIPEERYKMK SKPLGICLIIDCIGNETELLRDFTSLGYE VQKFLHLSMHGISQILGQFACMPHRDY DSFVCLVLSRGGSSQSVYGVDQTHSGLPL HHIRRMFMGDSCPYLAGPKPMFFIQNY VVSEGPAGEQQPLGGWMGQR
6025	14076	A	6800	1	239	QCCSGGTHGNPAIGDRM QKQILPWAPA QMKIRFMAPPERKYSVWIAAPILASLSTS SRMWISKQEYDESGPSIVHRKCF
6026	14077	A	6801	2	440	TGIVMDSSDGITHTMPYEGYTLP HAILP LDLAGQDLTDYFMKILKEGGYSFTTTAE REIMLDIKEKLCYITLDFEQEMATAASSS SLEKS*ELLNGQVITISNQWFHCP/EYLFQ PSFFTSIMKCDVDICKDLYANTVLSGGT TMY
6027	14078	A	6802	2	212	
6028	14079	A	6803	3	443	
6029	14080	A	6804	1	1470	MSTRPRRPPQLGRSTGRARLASRVAAAA GPPGARAPLAGDRAPAAGAPRRAGAGP CRPDPPPPAAGPTRGSPREGGKTGNRGK EREKGRRRAQSLAFADPPPVATRRQLTMD DDIAALVVDNGSGMCKAGFAGDDAPRA VFPSIVGRPRHQGMVGMGQKDSYVGD EAQSKRGILTLKYPIEHGIVTNWDDMEKI WHHTFYNELRVAPEEHPVLLTEAPLNPK ANREKMTQIMFETFNTPAMYVAIQAML SLYASGRTTGIVMDSGDGVTHTVPIYEG YALPHAILRLDLAGRDLTDYLMKILTER GYSFTTTAEREIVRDIKEKLCYVALDFEQ EMATAASSSSLEKSYELPDGQVITIGNEI RFRCEALFQPSFLGMESCGVHETTFNSI MKCDVDIRKDLYANTVLSGVGTTMYPG VADRMQKEITALAPSTMKVKIAPS*RK YSVWIGGSILGLLSTFQQMWISKQEYD ESGPSIVHRKCF
6030	14081	A	6805	171	393	GKPKPKPKPLPKPKSREISHIP*GL*KAGP FRAPGRPGCKPCWLGPSIGPGR*GCP*K ASPEKVLGENLTLKNP
6031	14082	A	6806	3	264	SRRGSSPAQGS LGRPQLLSAQYKWVG GGDRVSL*TMDFSLAPKTNRASQSKLD LQPA*APWP/PQLCGHPVPSASCPKSPTF KPT
6032	14083	A	6807	1	632	
6033	14084	A	6808	1	591	
6034	14085	A	6809	783	1516	
6035	14086	A	681	76	158	
6036	14087	A	6810	1	951	
6037	14088	A	6811	122	271	
6038	14089	A	6812	3	132	
6039	14090	A	6813	3	302	
6040	14091	A	6814	2	2158	
6041	14092	A	6815	2	186	



6042	14093	A	6816	1	866	MMEAIIKKKMQMLKLDKENALDRAEQAEAEQKQAEERSKQLEDELAAMQKCLKGTEDELDKYSEALKDAQEKLELAEKKAADAEAEVASLNRRQLVEEELDRAQERLATALQKLEEAEKAADESERGMKVIENTRALKDEEKMELQEIQLKEAKHIAEEADRKYEEVARKLVIIEGDLERTEERAELAESKCSELEEELKNVTNNLKSLEAQAQEKYSQKEDKYBEEIKILTDKLKEAETRAEFAERSVAKLEKTTDDLEDELFAQKLKYKALSEELDHALNDMTSI
6043	14094	A	6817	1	639	
6044	14095	A	6818	1	1710	
6045	14096	A	6819	764	1203	FWLWVSFWVPCNTHITTSKSTSFSSPSTQATRFGVL/WFVIKASIIQGYCIARERKEFTHPVGRLSCLRQKLYNGTTETVTSWSSNHTERNPFKFPKLRTVWTHPESHRDWTAPTGLYWICGHRFAKLPDESAGIGGPKQG AIGIKE
6046	14097	A	682	1	2313	
6047	14098	A	6820	24	225	ARQAQAWFWAWRWAACLWFYFLVVFSS*NRY*VSNNKNNIRRLSSLNSSCKF/WS TRQQK*IPKMLS
6048	14099	A	6821	1	1752	
6049	14100	A	6822	110	203	
6050	14101	A	6823	76	353	
6051	14102	B	6824	64	930	MLRSVWNFLKRHKKKCIFLGTVLGGVYILGKYGQKKIREIQERAAEYIAQARRQYHFESNQRCTCNMTVLSMLPTLREALMQQLNSESLTALLKNRPSNKEIWEDLKHSFTRSTVAVYSTCMLVLLRVQLNIIGGYIYLDNAAVGKNGTTLAPPDVQQQYLSSIQHLLGDGLTELITVIKQAVQKVLGSVSLKHSLSLLDLEQKLKEIRNLVEQHKSSSWINKD GSKPLLCHYMMMPDEETPLAVQACGLSPRDITTIKLFHKTEDMLGSPDFRQFLNTCFKPRF*
6052	14103	A	6825	385	666	
6053	14104	A	6826	701	930	VAERQTGTGQGTVDITDRATSM*MRQRRGCCFATCC/FRHEGVPPVPWQGRYHDHEGGFPRARLIHCTPDVLTYPYHVP
6054	14105	A	6827	248	719	TDEPSLLSHTFCPKGALLSACSGACPLSSGTQAGMPPSTEALQPCRGLTVPHQQDKGHRACC/VWKALAADWSVEWQKGRRGLGKALSVTSR/IRATSM*MRQRRGCCFATCC/FRHEGVPPWERYHDHEGGFPRARLIHCTPDVLTPAISPNVGNSTA
6055	14106	A	6828	1	2489	
6056	14107	A	6829	227	547	FHNKCPRRLESRLRQISIFGMPENHLLKMQILRSAPDSLDFPCAGPLHLGEELLHRVEQVGAEVARVQQDFVL*GDMVEHLPRPGRQAESTPPTVPGNPPETLRRR
6057	14108	A	683	788	926	PSPPELPEGDFEGFFPQKLQ*SCLPTLQKKKNNNNNNNNNNNNNNNEK
6058	14109	A	6830	3	433	
6059	14110	A	6831	37	360	
6060	14111	A	6832	280	1816	
6061	14112	A	6833	3	251	GGALRLHQVPPALPLRGAVSGAAAVQGMDSCTPCCEVHLLQD*VPAGEARVQWHDGLSLQPPPPRFKRFSCILPSSWDYRH
6062	14113	A	6834	3	251	GGALRLHQVPPALPLRGAVSGAAAVQGMDSCTPCCEVHLLQD*VPAGEARVQWHDGLSLQPPPPRFKRFSCILPSSWDYRH
6063	14114	A	6835	2	340	
6064	14115	A	6836	220	412	

6065	14116	A	6837	425	619	
6066	14117	A	6838	1	684	MESQEPTESSQNGKQYIIEELISEGKWV KLEKTTYMDPTGKARTWESVKRTRKE QTRDGVAVIPVLQRTLHYECIVLVKQFR PPMGGYCIESPAIGLIDDGETPRKQLLSR ELEEEETGLQRGPLPEC/SLPAVCMGPQAC PNCTVHIVTV/TPINGDDAENARPKP/KSP GDGEFVEVISLPKNDLLQRLDALVAEE HPHSGTPRVYSYALALKHANAKPFEV PFLKF
6067	14118	A	6839	3	194	
6068	14119	A	684	242	437	KSCFFCLIRCYDSLPLPLLLNNFFFLGTES CSVAQAGVRWLNLSSSATSGLPGSINSP ASAS*AA
6069	14120	A	6840	1	168	
6070	14121	A	6841	3	191	
6071	14122	B	6842	15	377	MAALCRTRAVAAESHFLRVLFFRPFRG VGTESGSESGSSNAKEPKTRAGGFASAY GAARRSFYRRWSPYRKVEPRGSPKKC GILCIYAETILPLTTDGTTLQTTKL VHWGT SFIFVENDL*
6072	14123	A	6843	2	205	
6073	14124	A	6844	1260	1628	SFLCLVSCFSNFS*NCSRPFVSLSLKFDFV FVLFCDGVLCHPGWIAVAQSRLTTAST SRVSRFSCLTIRSSWDYRRPPPCPADFCIF SR/DRGFTMLARLVWNS*PQVICPPPPK VLGLQA
6074	14125	A	6845	3	629	
6075	14126	A	6846	15	241	
6076	14127	A	6847	93	172	
6077	14128	A	6848	3	82	
6078	14129	A	6849	2	237	
6079	14130	A	685	1	1254	
6080	14131	A	6850	407	529	
6081	14132	A	6851	2	383	
6082	14133	A	6852	1	444	
6083	14134	A	6853	1	279	
6084	14135	A	6854	3	989	
6085	14136	A	6855	1	318	
6086	14137	A	6856	1	397	
6087	14138	A	6857	15	95	
6088	14139	A	6858	3	350	
6089	14140	A	6859	118	325	
6090	14141	A	686	73	1553	PLKAKMGKEKTHINIVVIGHVDSGKST TTGHLIYKCGGNDKRTIEKFEKEAAEM GKGSFKYAWVLDKLAER\ERGITIDISL WKFETSKYYVTYPFDAP\GHRDFYPKT WITGDI FRLDWFGGPPFWGGSPLIVAAG\ VGEFEAGYLPRNGADPERHALLAYTLG CETTKLSGVNKNNGIPLEPTPTAQKKILKEI VKGKSALT LRKIGYNPDTSILCPISGWN GDNMLEPSA\NMPWFQGDGKVTRKDG NASGTTLEALDCILPPTPTDKPLGLPL QDVYKIGGIGTVPVGRVETGVLKPGMV VTFGPVNVTTTEVKSVMHHEALGEALP GDNVGFNVKNVSVKDVRRGNVAGDSK NDPPMEAAAGFPAQVILNHPGQISAGYAP VLDCHTAHIACKFAELKEKIDRRSGKKL EDGPKFLKSGDAAIVDMVPGKPMCVESF SDYPPLGCFVDRMRQTVAVGVIAVD KKAAGAGKVTKSAQKAQKAK
6091	14142	A	6860	1	135	
6092	14143	A	6861	1009	1140	
6093	14144	A	6862	3	416	
6094	14145	A	6863	4	252	

6095	14146	A	6864	3	130	
6096	14147	A	6865	1	1590	
6097	14148	A	6866	1	595	GTRRLAPTAQRKRDENQSVKPEPGRGAS VRGGNLQTLPAAGDFLTCP SARD FRRVP AGQTQVPAAETA VEPVPAVVAGARGGR VMSEPQPRGAERDLYRDTWVRYLGYAN EVGEAFRSLV PARVVWLSYGVASSYVL ADAIDKGKE/ELERCPALEASRSARVTVA VVDTFVWQALASVAIPGFTINRVCAASL YVLGT
6098	14149	A	6867	2	453	
6099	14150	A	6868	1	265	
6100	14151	A	6869	46	194	
6101	14152	A	687	67	408	KAAGKRGDFKTEGAYQRQRTIFKNKRR ARREKTGRENLRGNYKNMGRGLKTPRG ALGGPYLDKKGPLRGKGPFQGGTLLSSS PKIKIQGT*IRRNYPYIRRYNRFKKRQ KNM
6102	14153	A	6870	4	228	
6103	14154	A	6871	1	288	
6104	14155	A	6872	1	885	
6105	14156	A	6873	532	687	
6106	14157	B	6874	158	3331	PRPPAAGEAQAADMNHQQQQQQQKA GEQQLSEPEDMEMEAGDTDDPPRITQNP VINGNVALSDGHNTAEEDMEDDTSWRS EATFQFTVERFSRLSESLSPPCFVRNLP WKIMVMPRFYDPRPHQKSVGFLLQCNA ESDSTSWSCHAAVLKIINYRDDEKSFSSR RISHLFFHKENDWGFSNFMWSEVTDPE KGFIDDDKVTFEVFVQADAPHGVAWDS KKHTGYVGLKNQGATCYMNSLLQTLFF TNQLRKA
6107	14158	A	6875	589	732	
6108	14159	A	6876	1	799	
6109	14160	A	6877	2	470	
6110	14161	A	6878	3	204	
6111	14162	A	6879	367	551	EHSTLKLPHYHTQEAGAAPGPTGTD SHEV DHLEGGAGKEAGPCA*SLGTMVAPVRS NSGSPE
6112	14163	A	688	10	386	AGAAAIGEPMA*RGEHPPWSVDERAD STNVNNWHWTERDASHWSTD KLKTLFL AMHVQNEERNGEATEVSKLDGEASINN RIGKLMFFYEWGVTLDTWTGAS*SGVPY KGHVEIPYLADENCVDE
6113	14164	A	6880	24	547	
6114	14165	A	6881	1	828	
6115	14166	A	6882	2	270	
6116	14167	A	6883	2	114	
6117	14168	B	6884	75	293	MPSIKLQSSDGEIFEVDVEIAKQSVTIKT MLEDLGMDDEGDDDPVLPNVNAAILK KVIQWCTHHKDDPPSS*
6118	14169	A	6885	446	639	

6119	14170	A	6886	3	1503	ARQRRSRAPTTHTHRALVRLFGSQSAP PPPPRSPSSAAMSTRSVSSSYRRMFGG PGTASRPSSSRVYVTTSTRTYSLGSALRP STSRSLYASSPGGVYATRSSAVRLRSSVP GVRLLQDSVDFSLADAINTEFKNTRTNE KVELQELNDRFANYIDKVRFLEQQNKIL LAELEQLKGQKSRLGDLYEEMRELRR QVDQLTNDKARVEVERDNLAEDIMRLR EKLQEEMLQREEAENTLQSFQDQVDNAS LARLDLERKVESLQEEIAFLKKLHEEEIQ ELQAQIQEQHVQIDVDVSKPDLTASLRD VRQQYESVAANKLQEAEEWYKCQVC* PLLRASNRNNEPLRQAKIQESNTELPENR VQSLTCVEVDAL*RKPMSSLERQLREME ENFC/AVKAANYPRLLARLQDEIQNY* RREMASLTFVEYQ*PALNVKMAP*HLRF ATLQE/MLLGRRGERGFPLASFPNFSLP* TLRGNLIWDSLPSGLIPHSKRDT
6120	14171	A	6887	3	232	
6121	14172	A	6888	252	384	
6122	14173	A	6889	3	196	
6123	14174	A	689	2	323	REMDLQVHNAMDQLEQRVSEFFMNAK KNIPEWREEQMASIKKDYKALEDADE KVQLADQIYDL/RSLELDTPSQPVNNHH AHSHTPAEKRYNPTSHHTTDDHIPEK
6124	14175	A	6890	1	2994	
6125	14176	A	6891	75	350	TGIPVNSYRVKINWYTLOFVSLFRPFGPGL VINQLADQSESEGPVQESAEPSQLVEVP ATEEIKETDGSSQIKQEPDPTWETSFLLG EISF
6126	14177	A	6892	1	2935	
6127	14178	A	6893	214	301	
6128	14179	A	6894	1	2879	MAQVAMSTLPVEDEESSESRMVVTFML SALESCKELAKSKAEVACIAVYETDVF VVGTERGRAFNTRKDFQKDFVKYCVE EEEKAAEMHKMKSTTQANRMSVDAVEI ETLRKTVEDYFCFCYKALGKSTVVPVP YEKMLRDQSAVVVQGLPEGVAFKHPEN YDLATLKWIGENKGGISFIKRPFLPKK HVGGRVMVTDADRSLSPGSGCGPIKVK TEPTEDSGISLEMAAVTVKEESEDPDYY QYNIQG
6129	14180	A	6895	1	334	
6130	14181	A	6896	3	444	
6131	14182	A	6897	117	1009	
6132	14183	A	6898	5	808	LPLGRAVWCTHCCAPTSPGPVLPHSAA MSFLKSFPFPGPAEGLLRQQPDTEAVLN GKGLGTGLYIAESRLSWLDGSGLGFSL EYPTISLHALSRDRSDCLGEHLYVMVNA KFEEESKEPVADDEEDSDDVEPITEFR FVPSDKSALEAMFTAMCEQALHPDPED EDSDDYDGEEDVVEAHEQGGQDIPTFYT YEEGLSHLTAEGQATLERLEGMLSQSVS SQYNNMAGVRTVEDSIRDYEDGDGRLDT TPVTVCLGQFEDADV
6133	14184	B	6899	233	411	XALNGLSAQDNWAKLQRDYDPDALITNY YLWPAVQLANFYLVPLHYREDPASTTLV SDPT*
6134	14185	A	69	709	941	SQHFRSGDQHHPGQHGETLSLLKMQK LAGCGMRL*SQLGLRLRQENLLNPGG RGCSKPRSHHCTPAWVTQQDSIS
6135	14186	A	690	2	495	AKKNKPEWREEQMASIKKDYKALEDA VDEKVLNQNQIYDLVDRGGRKLDQELAK FKMELEADNAGITEILERRSLELDTPSQP VNNHHASHHTPVEKRYNPTSHHTTDD HIPEKKFKSEALLSTLTVRCLLRENTLGC RNNNSTASSNNAYNVNSSLPLGSYN

6136	14187	A	6900	109	435	
6137	14188	A	6901	34	408	RQWLQEEAYITKEQKYSFLHDSQTSFCF SDSIPTSSNMEETQQ/KSNLELLHISLLLN QSRLEPVRFLRSTFTNNLVYDNSDSDDY QLLKDLEGGIQMLMGRLEAATN*LGGP QANYNKFDKTRTT
6138	14189	B	6902	80	495	XPGSRTSLLAFALLCLPWLQEAGAVQT VPLSRLFDHAMLQAHRAHQLAIDTYQEF EETYIPKDQKYSFLHDSQTSFCFSDSIPT SNMEETQQKSNLELLRISLLIESWLEPV RFLRSMFATTWCMTPTAMTITS*
6139	14190	A	6903	1	597	
6140	14191	A	6904	3	552	
6141	14192	A	6905	3	716	
6142	14193	A	6906	359	648	WIPRPNSPNHSGSCGQAHLVAMAPGSRT VSLLLAFALLCLPWASRRLGAVPKPFRIS RLFDHAMLQAHRAHQLAIDTYQEFEE TYIPKDQKYSFLA*PQTSFCFSDSIPTPS NRRITQQKSNLELLRISLL/TESWLEPV RFPQEYCSANNLGVLTPRTAIDYHLLKD LEGGHPTV*WNICREVCFSCFSGRIRDD IEEEDDQEAIFYRYMAENPTAGVVQEEEE DNLEYDSDGNPIAPTCKIIDPLPIDHSEV DQHGLRPEGTHLTLKERTSWVESVADTL CTILTTLVMDPKAQLPEPLRVLWTGSPS GNGSRLPDVPCSWLLPCSACFGLQGGW VPCQNRSVYPGFFDHAIAPSPSRAPAGH CTPTRSLKKPHIPKDQKYSFLA
6143	14194	A	6907	113	411	
6144	14195	A	6908	3	1162	
6145	14196	A	6909	2	265	
6146	14197	A	691	50	391	GSQKIAPVFWSGFECDSERLTDLESWLY ILPATQPWSLTIFYFQFSFILFLRYDKLF FFFTLYLYLNLYFFLYVFLFIV*ICIFYIY LVFIFKCVV*FFIFFVCFMLFFL
6147	14198	A	6910	3	151	
6148	14199	B	6911	58	359	SLAALQAYSHWLAQYCEVHRQNTQQF VTLISTTMDAITPLISTKVQDKLLLSACH LLVSLATTVRPVFLISIPAVQKVFNRITDA SALRLVDKRMSSSGP*
6149	14200	A	6912	4	329	
6150	14201	A	6913	2	256	
6151	14202	A	6914	1	350	

6152	14203	A	6915	257	2659	VDCRMS/FSYIEKFTDFLRFLVSVHLRRIE SYSQFPVVEFLTLLFKYTFHQPTHEGYFS CLDIWTLFLDYLTSTIKSRLGDKEAVLN RYEDALVLLLTEVLNRIQFRYNQAQLEE LADDETLDDDDQTEWQRYLRQSLEVVA KVMELLPTHAFSTLFPVLQDNLAEVYGL QQFIVTSGSGHRLNITAENDCRRHLCSLR DLSSLLQAVGRLAEYFIGDVFAARFND LTVVERLVKVTLYGSQIKLYNIETAVPSV LKPDLIDVHAQSLAGGCRSLAHWLAQY CSEIHRQNTQQFVTLISTTMDAITPLISTK VQDKLLSACHLLVSLATTVRPVFLISIP AVQKVFNRITDASALRLVDKAQVLVCR ALSNILLPWPPLPENEQQWPVRSINHAS LISALSRDYRNKPSAGAPQRKMPDDT KLIHQTLQRLRKILWENISGTESTKSSTDF AYQFGCRESVQVSLGLFPFVHQSDVT DEMLSFFLTFRGLRVQMGVPFTEQIIQ TFLNMFTREQLAESILHEGSTGCRVVEKF LKILQVVVQEPGQVFKPFLPSIALCMEQ VYPILAEPSPDVKAELFELLFRTLHHN WRYFFKSTVLASVQRGIAEEQ MENEPQ FSAIMQAFGQSFLQPDHILFKQNLFYLA TLNTKQKLYHKVFRITAMLFQFVNVL LQVILVHKSHDLLQVEIGHRHSYNMAS VDFADGFFAAFLPEFLATSCDGVADANQK SVLGRNFKMDRVRERGRARRAEWA RKPGTCAARRGHIEASGRGLCPPCSLAA AHEMPADLVL
6153	14204	A	6916	1	321	
6154	14205	A	6917	1	259	
6155	14206	B	6918	1	3045	MPDCTSKCRSLKHALDVLSVVTGSEN QIKAFLLSSHHCYNAATIKDVFGRNALHLV SSCGKKGVLDWLIQKGVDLLVKDKESG WTALHRSIFYGHIDCVWSLLKHGVSLEYI QDKEGLSALDLVMKDRPTHVVFKNATGC LLDPNGEKCVTAPRQVSALHHKDIALSL VAASDGATVCVTTTRGDIYLLADYQCKK MASKQLNLKKVLVSGGHMEYKVDPEHL KENGGOQKICILAMDGAGRVFCWRSVNS SLKQCRWAY
6156	14207	A	6919	1	1149	
6157	14208	A	692	3	546	PAPPGRVFAAWPGSEEARVLVVLKGCA CRAGLFKMYPLPMTEVCTKSSTVTWF CFAAYESLFETPFAIGSVLVPSWGLTL ALS*VCFAAFA*LLASLFSQDPLVSPSAA MWASPAFCFAEPSSAAIGVSSPSSSVFTQ QS**GSPLAGSASASAKNMARARSVAPP RNGRPGNTNADS

6158	14209	A	6920	426	2967	HSAPPAVLRGGMSEAGGAGPGGCGAGA GAGAGPGALPPQPAALPPAPPQGS AAGGSGACGPATAVAAAGTAEGPGGGG SARIAVKKAQLRSAPRAKKLEKLG CKAEESCKCNGWKNPNPSPTPPRADLQ IIVSLTESCRSCSHALAAHVSHLENV EMNRLLGIVLDVEYLFTCVHKEEDADTK QVYFYLFKLLRKSILQRGKPVVEGSLEK KPPFEKPSIEQGVNNFVQYKFSLPAKER QTIVELAKMFLNRINYWHLEAPSQRRLR SPNDDISGYKENYTRWLCYCNVPQFCD LPRYETQVFGRTLRSVFTVMRRQLLE QARQEKDKLPLEKRTLILTHFPKFLSMLE EEVYSQNSPIWDQDFLSASSRTSQLGIQT VINPPPVAGTISYNSTSSSLEQPNAGSSSP ACKASSGLEANPGEKRKMTDSHVLEEA KKPRVMGDIPMELINEVMSTITDPAAML GPETNFLSAHSARDEAARLEERRGVIEFH VVGNSLNQKPNKKILMWLVGLQNVFSH QLPRMPKEYITRLVFDPKHKTALIKDG RVIGGICFRMFPSQGFTEIVFCAVTSNEQ VKGYGTHLMNHLKEYHIKHDVLNFLT ADEYAIGYFKKQGYCKEIKIPITKYGGYI KDYEGATLMGCEALNPRNPYTEFSVHKK AE/EGHKKLIERKQAQIPKKFTLGLSCFK DGVROIPIESIPGIKKA/GWNPSSGKEKSKE PRDPDQLYSTLKSILQVVKSHQSAWAF MEPVKRTEAPGYEYVIRFMDLKTMSER LKNRYVVSCKLFMADLQRVFTNCKEYN AAESEYYKCANILEKFFFSKIKEAGLIDK
6159	14210	A	6921	1	184	
6160	14211	A	6922	114	384	
6161	14212	A	6923	141	1741	
6162	14213	A	6924	1	153	
6163	14214	A	6925	1	200	
6164	14215	A	6926	2	242	
6165	14216	A	6927	132	251	
6166	14217	A	6928	132	251	
6167	14218	A	6929	2231	2578	PLPPGSRTLHWMAPDEEDFRIGN*TMNA IFFFLFLFFFFFLRQSFALVVQAGVQW HDLSSLQPPPPRFK*FSCSLPSGWD*RH APPRPAIFVFLVEMGFHHVNQDGLDLT W
6168	14219	A	693	3	389	DAWVDPRFRLIFLKTTLTGKTMVDLEPN DTIANAKA*IQDKEGIPPDQRLIFAGKQ LENGRTLDPDYHHEKSTLLVLRKGGMQ IFVKTLTA*TISLQAEPSTIHN*EKIQD KESIPPDQHTVIL
6169	14220	A	6930	2	94	WRDLGSL*PPPPGFKRFS*LSLKSHPNVT S
6170	14221	A	6931	130	295	GIISNADFVSFFFF*DGVFALVAQAGVQ WRGLGSLQPLPPGFKRFSCLSLPSTW
6171	14222	A	6932	3	403	TYKILDFIVNSIRHRRGTFRPGHTEVTS MTLDFIGAG*/SNLQ*PAST*PGDQY*I*L LQST*NYVLHKFQLPTWKGRSEISEQAV SAKEKT*KS/T*LALVK*ARTLESNWPGL *ILILISLSCMIWTNDSNLF
6172	14223	C	6933	78	335	MWSPLTKEIFSCPTPQTCGAFKGLTKRA PXXXXXXXXXVKIGXXXXXXXXXXXXX XVSPRPLSARVLAPCLGCDFFVSFNRTTV WK*
6173	14224	A	6934	1	143	
6174	14225	A	6935	1	1676	
6175	14226	A	6936	1	161	
6176	14227	A	6937	61	742	
6177	14228	A	6938	7	238	
6178	14229	A	6939	1	213	

6179	14230	C	694	70	225	MNIQYIQHESVYQNVRSQRESTGRWSH CCPSQGRSRRIPFTVEEIQQHGV*
6180	14231	A	6940	1	257	
6181	14232	A	6941	3	279	GSGWDGRGQSGRVADSS*ARVLSAL'RE VNK\RLQDLRSCLSPKPPQGGQEQQED EVVLVEGPTLPETPRLFLKIRCRADLVR LPLRMVSA
6182	14233	A	6942	73	816	
6183	14234	A	6943	1	484	
6184	14235	A	6944	1	1758	
6185	14236	A	6945	1	1420	
6186	14237	A	6946	186	209	QLWPN*LLSRNKEATLRYSQLPTCHSICY *MPAF*HTISDLSFNKNINCKSYHLRVFY KYV*IVCHF*VPKVYWTKEYYQTSRT*W R*SGVE*PPISSSSSACCLLRRLPTEGTCF EIFWNPRLGISAECDSCGPTSF
6187	14238	A	6947	2	2948	
6188	14239	A	6948	1	616	
6189	14240	A	6949	1	1913	
6190	14241	A	695	277	396	EAP*HPDFIKNMITGTS*ADCAGLIVAAG GGVFKSWDLQK
6191	14242	A	6950	3	185	
6192	14243	A	6951	112	569	
6193	14244	A	6952	1	1210	
6194	14245	A	6953	75	333	
6195	14246	A	6954	271	512	GAVGRPRSQQKSIGVPGWVSPGF*ECGK RRMTFVLLKHIMLLFPARFQQIMRNIPRR LAEHMQQLFSSCPSLMRAFEVT
6196	14247	A	6955	2	184	
6197	14248	A	6956	13	163	
6198	14249	A	6957	627	847	
6199	14250	A	6958	3	144	
6200	14251	A	6959	1	2008	PAAADARRPRAPATMRPRKAFLLLLL GLVQLLAVAGAEGPDEDSSNRENAIEDE EEEEEDDDDEEDDLEVKEENGVLVLND ANFDNFVADKDTVLLEFYAPWCGHCKQ FAPEYEKIANILKDKDPPIPAKIDATSAS VLASRFDVSGYPTIKILKKQAVDYEGS RTQEEIVAKVREVSQPDWTPPEVTLVL TKENFDEVNDADIILVEFYAPWCGHCK KLAPEYEKAAKELSKRSPPIPLAKVDAT AETDLAKRFDVSGYPTLKIFRKGRPYDY NGPREKYGIVDYMIEQSGPPSKEILTLKQ VQEFKLDGDDVIIIIVFKGESDPAYQQY QDAANNLREDYKFHHTFSTEIAKFLKVS QGQLVVMQPEKFQSKYEPRSHMMDVQ GSTQDSAIKDFVLKYALPLVGHKVSND AKRYTRRPLVVVYVSDFSDYRAATQ FWRSKVLEVAKDFPEYTFIAADEEDYA GEVKDLGLSEGEDVNAAILDESGKKFA MEPEEFDSDTLR\ELVTAFKKGKLPVIK SQPVPKNNKGPVKVVVGRTFDSIVMDP KK\DLVIEFYAPWCGHCKQLEPVYNSL A\KKYKGQKGLVIKMEAPANDVPQRP AIRVEGFPTIYFRPPVGDKKDPVVKFEG GD\RDLEPFEPFIEEHA\TKLSRTKEEL
6201	14252	A	696	549	707	SQNFWRPMWADHLRLGVRDQHGQHGE TPSLLKIQLAGHGGGRL*SQLVRKLR
6202	14253	B	6960	137	214	ASQFPIEWRPVKDAATVDSEPALPQQ*



6203	14254	A	6961	1	625	PSLKGQKLELHRGAAALELVDPPGCRSG LVHARGCTYSQWRSRSHPFCCSRGPLA MAGILFEDIFDVKDIDRKAKKFDRVASRL HCESESFKMDLILDVTIQIYPVDLGDKFR LVIASLTLYEDGTLDDGEYNPTDDRPSRA DQFEYVMYGVYRIEGDDETSTEAATRA LSAYVSVYGGLLMRLQGDANNLHGFV DSRVYLLMKKLAF
6204	14255	A	6962	1	273	
6205	14256	A	6963	135	233	
6206	14257	C	6964	198	449	
6207	14258	A	6965	1	1278	
6208	14259	A	6966	1	325	
6209	14260	A	6967	525	661	TEILSGSLGSEIFTSES*RPGLGPSFVIFLF SSSVCLNIFRVL
6210	14261	A	6968	1	293	MAGTPPPALLPPCSLISDCCANNQRDSV GVGPSEPGAGYNLVVRSFLSPSEKRSVR VGVTRLFQGRPSPLSLTQKGNPLTPCAS QFTSTISDGRIMV
6211	14262	A	6969	1	1372	
6212	14263	A	697	82	417	AFQEMELKRPQEEDVAALPEGMRPHSN LYGFSWE*VICAADVGLFAALFFLWRSF RTVRIHVGRERKLALMLSGLNQ*KSEL LGHCILAQNEYDGYELDE*FVDLRVDKE
6213	14264	A	6970	2	277	KNEMTLDAYIFLADMAAYQEEQMQLP RADAIRSLIDTFSLIEHLQGLSQAVPRH TIRELLGQQPISSLI*I*DSYPHPLHLRVEN SGEV
6214	14265	A	6971	434	563	ETTFYNEQRGPQPHLEVKKKYRGN*EA KTK*LRPENWKGDL
6215	14266	A	6972	197	1247	ALVRLDSWMGLNTTANLGGGEMTEMAR GVTPWICPRSSAERARSGIPAMVPISVK ISGPQLLIGPNPPGSKRWARNSSCSSEH CR/SQGAQEESCLAQHH/TPSAPSQMT*T PNC*CAGAPLAAVHR/GITQRCQMNEVQ VAHMPPTLP*ETGDHNAELSGAPAIYLP QGAQHSPVH*DQLL*FPIS*TY*EPTKLQ DLLRTKSPGGTPQLFCFAH/ALPAVPQAQ VLGLLQIMSGSPQSLRAPSLQSLQTRLL GMSLVHLHNLAAQVLEDPQQLVAPP/T/D YQGCFLGSKLWLPQLSN/VCSAPSSAAF LEAAPGSLDPRPPGFV/VPSLPGLPGGGGS VPAAALELFAPAPPPT
6216	14267	A	6973	232	476	IFVSSYYHVNLFRRFT*AHSSSH*TNPD LYPYQHGNKVKDIPGTLLENRKVG*PL KKDLQDENKQDKPSCHLQGGQLQWP
6217	14268	A	6974	442	698	
6218	14269	B	6975	546	1820	LLNCPLFCYGLTSVLHVTCFFSHHGY DTSKDNQAKQPKDEIDAAEDATDFRH LPDVLKQCIPMIQASQPADSAVPATSGK VYGTPELTETPTNIEAAPLAEEEHASSA TSITECDKLSSFATSVAEQSVASLTAPQ TEETGKSSLLDVTISIPSSRTEATQGLD YVPSAEDKGFKSPPCEDFSVTGESEKRG EIIGKGLSGERAVEEEEEETAHVEMSEKL CSQYGTVPVSAPGHALHPGEPALGEAEE RRLSPDDSTVKMASPAPSGPPSGTHTPFH ESPVEEKSEPQDFQEADSWGDTQRTTSV GKRKAAEELRCLVRTGRSIRGLSLPPACT RAERREVERVVVDALSGLKGDLGRYY RLSEMTEAEQQQLIDHFLFDKPVSPLLT AAGMARDWPDARGIWHNNEKSFLIWN N*
6219	14270	A	6976	2	480	
6220	14271	A	6977	1	2043	
6221	14272	A	6978	1259	1497	

6222	14273	A	6979	2	425	
6223	14274	A	698	751	1063	FYQDKRHQPGIVAAACNPFGRSRQEDLL RS*VGDQPGQHSESPSMQKI*KL AGHGG AHV*S*LLRRPRQDNPLSPGGQGCSVL*S HHCTPAWATQGDPSKSKN
6224	14275	B	6980	259	329	XFRKKEQQIKQCKGTAGQALIKE*
6225	14276	A	6981	1	1251	
6226	14277	A	6982	1	421	
6227	14278	C	6983	120	371	MSAHSHPCTCINGHTPVSITYXXXXXGG PFKRTLGGPKFNGGGQKIFFFMGGLFK PSLGFLEKNLFXXXXTYGATPPPKFKP*
6228	14279	A	6984	76	251	ALKFCRGVFPFSPQKKFLFQNSPGGFFF PPLKEKNFSFPP*KSSSPKPLNFVGGFFF FFPPP/NKKFLFQNSPGGFFFPLKEKNFS FPPPVKFGPPQGSF*TPPP
6229	14280	C	6985	193	315	MGGQLKPSLGFLEKNLFFGGEKNHXX XXKFKPLGXXXXF*
6230	14281	C	6986	363	413	
6231	14282	A	6987	1	1088	
6232	14283	A	6988	64	1279	LAPGAVGKGRGHTLPCSAARMGVKAS QTGFVVLVLLQCCSAYKLVCYYTWSQ YREGDGSCFPDALDRFLCTHIYSFANIS NDHIDTWEWNDVTLYGMLNTLKNRNP NLKTLLSVGGWNFGSQRFSKIASNTQSR RTFIKSVPPFLRTHGFDGLDLAWLYPGR RDKQHFTTLIKEMKAEFIKEAQPGKKQL LLSAALSAGKVTIDSSYDIKISQHLDFIS IMTYDFHGAWRGTTGHHSPFRGQEDA SPDRFSNTDYAVGYMLRLGAPASKLVM GIPTFGRSFTLASSETGVGAPISGPPIGR FTKEAGTLAYEICDFLRGATVHRTLQ QVPYATKGNQWVGYYDDQESVKSXVQY LKDRQLAGAMVWALDLDQGSFCGQ DLRFPLTNAIKDALAAT
6233	14284	A	6989	3	174	
6234	14285	A	699	3	17	
6235	14286	C	6990	116	181	MCSTSRSRFTNILKSCNLLKY*
6236	14287	A	6991	20	111	
6237	14288	A	6992	120	426	
6238	14289	A	6993	2	112	
6239	14290	A	6994	24	316	FLFLFFETESCSVARLECSGAISAHCKLC LPGSRHSPASASSQVAGSTGACHQA/QA NFVVFVLVETGFYRVSPG*SG/LSLELVIR PPRPPKVLGLQV
6240	14291	A	6995	80	326	
6241	14292	A	6996	1	233	
6242	14293	A	6997	1941	2223	RTPRMKQSPAPIPCQPTTCSGCMASRAT RTGWTSVCAYCRLFRAHACVPVALPE MVRALSAQQQTLKQIVICGDRQAKDTK ALGAVRPLCLHS
6243	14294	A	6998	211	544	
6244	14295	A	6999	31	230	
6245	14296	A	7	46	1069	ESKHGNFFWVIFLCYCTKEERTQLQKQK TDEYFRMKLQWKSISQEKEKNSRLRD YRSLIEKDVNRTDRTNKFYEGQDNPGLI LLHDILMTYCMYDFDLGYVQGMDS\FFS PFLYVMENEVDFAWCFASYMDQMHN FEEQMGMKTQLIQLSTLLRLDLSGFC YLESQDSGYLYFCFRWLLIRFKREFSFLD ILRLWEVMWTELPCTNFHLLCCAILSE KQQIMEKHGYFNEILKHINELASKIDVE DILCKAEAISLQMVCKELPQAVCEILGL QGS\AVTTPDSVVG*RTKMLVNDFLGPT VCISKVTALPTLSASGARNDSPQIPVSS RCLQD

6246	14297	A	70	170	340	TDSALGSPCLHPTALCAVCGTA*SST/GL VALALMRLELILKSSVPAVMAGIITIYNL
6247	14298	A	700	3	443	
6248	14299	A	7000	1	861	
6249	14300	A	7001	55	406	
6250	14301	A	7002	1	361	
6251	14302	A	7003	1	1725	
6252	14303	A	7004	1	1271	
6253	14304	A	7005	3	329	LKLCCKSAKSCENDLEMGMLNSKFCKT RYQAGMRNSENLTANNTLSKPTRY/QGE LKEIKQDISSRLRYELLEKSQATGELADLI QQLSEKFGKNLNKDHLRVNKGKDI
6254	14305	A	7006	1	801	
6255	14306	A	7007	21	373	
6256	14307	A	7008	3	63	
6257	14308	A	701	147	437	WYVKKERKKERKQERKKERKKERKKE RKKRKRERKKER*REREREGRKEGRKE GRKEGRKEGRKEGRKKGRREGREKERE RKKEREISREYDSEK
6258	14309	A	7012	1	521	MSSKRTKTKTKRPPQRATSNVFAMFDQ SQIQEFKEAFNMIDQNRDGFIDKEDLHD MLASLGKNPTDEYLDAMMNEVAPGPINF PQWFSPMLVRSNAPDPENVIRNAFACF DEEAPGPIQEDYLRELLPTMGDRFTNEE VDELHREAPIDKKGNFNYIGFTRILEHG AKDKDD
6259	14310	A	7013	106	693	TTTMSSKKAKTKTKRPPQRATSNVFA MFDQSQIQEFKEAFNMIDQNRDGFIDKE DLHDMLASLGKNPTDAYLDAMMNEA PGPINSTMFLTMFGVEKFKSHRSPEDVI/ RANGLCFCSDDEEATGHPFQED/YTLRELL TNPWGD/RFPDGGKWMNLYQRKHLIGP KKGEFSNYIGVHHGILTGRPPKHKDDLK ELLA
6260	14311	A	7014	78	188	
6261	14312	A	7015	2	93	GGSCL*SQHFGRPRWADHEVRRSRPSWL TR
6262	14313	A	7016	2	93	GGSCL*SQHFGRPRWADHEVRRSRPSWL TR
6263	14314	A	7017	2	93	GGSCL*SQHFGRPRWADHEVRRSRPSWL TR
6264	14315	A	7018	2	93	GGSCL*SQHFGRPRWADHEVRRSRPSWL TR
6265	14316	A	7019	2	94	GGSCL*SQHFGRPRWADHEVRRSRPSWL TR
6266	14317	A	702	505	637	CLLLNSIYRRHQGR*DGKERKKDRKKE RKKERKKERKKERKKERKKKE
6267	14318	A	7020	1	418	RRLRTAMKLRSHRPDQTHWDQYQYKA HLGAALQANPLGGAHAHAKGIVLEKVRV EATQPKISAIMK/CVRVQLIKNGKKITAF VPNDGCLNFIEENDEVLVAGFGRKGHAV GDIPGVRFKVVKVANVFILALYKGKKER PRS
6268	14319	A	7021	2159	2334	SATNYRNLTVLELGNSTHRHSHKTNST* KNCTRIPTQSQLNK*VKKHQSHICQSNCP F
6269	14320	A	7022	1748	1821	
6270	14321	A	7023	2179	2485	
6271	14322	A	7024	3	502	TARAWLLGPVWPCVSRWSSKKPSPRG GRDPSDRDPAFAAARSTVPPRISAYERPV PWPGEWNPGRPGRRASAVVSPREGNW GVLRDPRQARKPRMVRSRQMCNTNMS VPTD/GCCNHLTDSFGTRDPG*TKAIAF EVIKVCWCTKRHLYYERGSFSLWPFVYY D
6272	14323	A	7025	89	291	

6273	14324	A	7026	1295	1429	
6274	14325	C	7027	332	763	MTGCLNFIENDEVLVAWIWSQKVMML VIFLESXFKVQSSPMVSLALYKWL YGETKIINMNGENTVVINFHMPKNVCILLSP VLTTKIMFITTTTPPYFFYPKPNAGPVPI LGNNKTGLFQDSLELITFVTWHSFHPVE *
6275	14326	A	7028	89	184	
6276	14327	A	7029	2	274	LDLDSIKIVKKLKTGFPPYKIFKNTSFI/ KDIVFMRTWYVPVSIPAFYNPVTSLKLP/V GEKDTWSGMWTTGHLGL/AHGVRCLKTN KDSLYKGLV
6277	14328	A	703	220	476	HNSLVVYYFEIWSRILFVYSCSIHTSVVT H*SLLSLGHLKYIWAGHGVSHL*FQHF GRPRWENHLRPLG*DQPGQHSETPSLLKK
6278	14329	A	7030	178	619	PPRHVQLNHAEFEDQDDEARVQYEGFR PGMYVCVEIENVPCEFV*NFDPRYPILG GLGNSEGNVGYVQ/IPITPQGTGFLAIQSV SGIMPDFRIAATGVVLDLDSIKIVKKL LTGFPPYKIFKNTSFIKGMFNSALEVAKFE GAVF
6279	14330	A	7031	159	484	DPITPQGTGFLAIQSVSGIMPDFRIAATGV VLDLDSIKIVKKLKTGFPPYKIFKNTSFI KGMFNSALEVAKFEGAVIRTISGIRGQIK KAL*APEGAFRASFEKLL
6280	14331	A	7032	19	3881	IATMEAKDQKKHRKKNSGPKAAKKKKR LLQDLQLGDEEDARKRNPKAFAVQSAV RMARSFHRTQDLKTKKHHIPVVDRTPLE PPPIVVVMGPPKVGKSTLIQCLIRNFR QKLTEIRGPVTVSGKKRRLTHIECGCDIN MMIDLAKVADLVMLIDASFGFEMETFE FLNICQVHGFPKIMGVLTHLDSFKHNKQ LKKTKKRLKHRFWTEVYPGAKLFYLSG MVHGEYQNEIHNLRGITVMKFRPLT WQTS
6281	14332	A	7033	182	374	
6282	14333	A	7034	2	198	
6283	14334	A	7035	1	457	
6284	14335	A	7036	2	145	
6285	14336	A	7037	55	193	
6286	14337	A	7038	564	882	
6287	14338	A	7039	257	513	KFFSFLSSACCLEQVLFVFFVFFLLII FSFFSFSSFFSSSSSSSSSSSSFFFLR WS/PRSVAQAGVQ/WS*FGSLQPP
6288	14339	A	704	1	554	DLILNHLFFCFVIRQQFSFLFFPSFFHFI AMLTHQSYVIFLSVYTVIIHLDYISLFLT YDIMYF*TKINT*AKLLLIYENMLIVL*CS AFLSNYTVLIVQIIASLIHSSTK*ISQCANII KI*ILH*L*SSVEINSYL*LFCYLVSAIL ELVLQSQFSYYMYILRIQLDFLNEEMHI
6289	14340	A	7040	936	1317	ILVLHGCFCWYLCLSMYFFNFEME SRSVAQAGVQWCA/DLCSLQAPPAGFTP FSCLSLPSSWDYRHPPLAKFFVFLVET GWFHRSQDGLDLLTSGDPPTSASQSAGI TGVSHRARPLKHL
6290	14341	A	7041	1	1218	

6291	14342	A	7042	1	1169	MAPPSPSTTSSNNSSSSNSGWDQLSKT NLYIRGLPPHTTDQDLVKLCQPYGKIVST KAILDKTTNKCKGYGVDFDSPAQAQK AVSALKASGVQAQMAKQQEQDPTNLYI SNLPLSMDEQELENMLKPFQGVISTRILR DSSGTSRGVGFARMESTEKCEAVIGHFN GKFIKTPPGVSAPTEPLLCKFADGGQKK RQNPKNYIPNGRPWHREGEVRLAGMTL TYDPTTAAIQNGFYSPYSIATNRMITQT SITPYIASPVSAQVAKETRENKYRGSJ KVQSPSWMQPPYILHDPGAVLTPSMEH TMSLQPASMISPLAQQMSHLSLGSTGT MPATSAMQGAQYLPQYAHMQTTAVPVE EASGQQQVAVETSNDHSPYTFQPNK
6292	14343	A	7043	1	743	
6293	14344	A	7044	2	171	
6294	14345	A	7045	1	350	
6295	14346	A	7046	2	1685	
6296	14347	A	7047	47	218	
6297	14348	A	7048	3	1716	GRCCCFSPDGKALAVGLNDGSFLMANA DTLEDLVSFHHRKDMISDIRFSPGIWPI GEVTDVITASCLTSDKMVLATGDDLGFV KLFRYPTKASSEQPTTARETPDKQCRQ EKETYRATAPSIHIWDAMNKQTLILRC YHSKGVCSVSFSATGKLLSVGLDPEHTI TIWRWQEGAKIASRAGHNQRIFAEFRP DSDTQFVSVGVKHKVFWTLAGRALLSK KGLLSTLEDARMQTMALAFGAGKILVG TRNAEIEVGEKNAACNINVNGHVDGPI WGLATHPSRDFFLSAAEDGTVRLWDIAD KKMLNKNVNLGHAARTVCYSPEGDMVAI GMKNGEFIILLVSSLKIWGKKRDRRCIAH DIRFSPDSRYLAVGSSENSVDFYDLTLGP TLNRISYCKDIPSFVIQMDFSADSSYLQV SSGCKYKRHYEVPSGKHLMGSAIDRIT WATWTSILGDEVLGWISRHAEKADVNC ACVSHSGISLVTGDDFGMVKLFDFPCPE KFAKHKRFLGHSPHVTNIRFTSGDRHV SAGGDDCRLVTFSAAHEEQTMLLVKRLN TTTTPTALVYEIS
6298	14349	A	7049	1	5853	
6299	14350	A	705	1039	1560	SLVLDLTGLPRPTSPSHERGLDSSSSGPG LSTGP*ECSPDPNPMCPKVLPGPDQRCW NSHSTAPIAFPEPVRSR*SGSWTPVPATG ATLNPRCQRGLAIPNSLVSSP*GPAGWRE LPSSQQAHPHPKR*GALRSENREQEPDQ GCGNCFVKYGGVRVGRVGYSGPVRTGCS RASN
6300	14351	A	7050	1	426	LKQQIEEQRVQVQVVERAQQVAVQEIEI ARAEAEQMAKKA/AFQLYQEAQQLDM LLEKLPQVAEEISGPLTSANKITLVSSGS GTMGAAKVTGEVLDILTRLPIESVERLT GWTILPRLNHKAF*RTALSLQPSQMPSLI AE
6301	14352	A	7051	162	1449	
6302	14353	A	7052	57	389	

6303	14354	A	7053	162	1581	TMFFTCGPNEAMVVSFGRSPVVMVAG GRVFLPCIQIQIRISLNTLTLNVKSEKV YTRHGVPISVTGIAQVKIQGQNKEMLA ACQMFLGKTEAEIAHIALETLEGHQRAI MAHMTVEEIKDRQKFSEQVFKVASSD LVNMGISVVSYTLKDIHDDQDYLHSLGK ARTAQVQKDARIGEAERDAGIREAK AKQEKVSAQYLSEIEMAKAQRDYELKK AAYDIEVNTRRAQADLAYQLQVAKTKQ QIEEQRVQVQVVERAQQVAVQEQEIARR EKELEARVRNPAEVAERYKLERPAEAEKS QLIMQAEAKAASVRMRGEAELCP*GP EPRAEAEQMAKKAEAFQLVPRGVAQL DMLRRESCPRWQEEISGPNLNFSPISPLV SSGSGTMGAAKVTGEVLDILNSPCPES VERLTGREHLPRVNHKPLKNSLEPSAL HRCPASLAEVALNDPPVACNPLGLPEHV H
6304	14355	A	7054	1	327	
6305	14356	A	7055	1	202	
6306	14357	A	7056	1	493	
6307	14358	A	7057	409	521	
6308	14359	A	7058	296	869	
6309	14360	A	7059	1	848	MPGLRVKMPGPGISQDEAVWSMDDNF EVNKKQHPVWRAATLAKDCKNQSAQAV TVYNKPASFKEAPLDLQHRLFMKLGST HSPFRARVFFCSFISEPEDPATERLAFTER DAGSRLVTLHERPALLVSSTSWTGKGP LREYYSRLIYQKHQHIQVCTPWLGAED YPLLIGSADLGVLHTSSISGLDLP/L*KV VDMFGCCLPVCANFKVFTLVLKHEEN GLVFEDSEELAAQLQMLFSNFPDPAGKL MSFRKNLPESQQL*WDES WVQTVLPLV MDT
6310	14361	A	706	644	930	EGSHGLGVVAHACNPSTLGNRCGVDHL SSGVQGGPGQHGTPLFQKIQKLAGHG GTRL*SSYLRLRWEDEGGRGCSEPRSRH CTPAPWATE*DPV
6311	14362	A	7060	738	1902	FHHLTETNSPNYFITMALNVAPVRDTKW LTLEVCROFQRGTCRSRDEECKFAHPPK SCQVENGRVIACFDSLKGRCSENCKYL HPPTHLKTQLEINGRNNLIQKTAAMLA AQMQMFMPGTPLHPVPTFPVGPAGITN TAISFAPYLAPVTPGVGLVPTLPTPVI VPGSPPVTPVPGSTATQKLLRTDKLEVC EFQRGNCARGETDCRFAPADSTMIDTS DNTVTVCMDYIKGRCMRECKYFHPPA HLQAKIKAAQF/QAAATVMTQSTAKAM KRPLEATVDLAFPPGALHPLPKRQALEK SNGTSAVFNPSVLHYQQAALSAQLQOH AAFIPTGSVLCMTPATSI VPMHSA TSAT VSAATTPATSVPAATATANQIILK
6312	14363	A	7061	1	240	
6313	14364	A	7062	3	354	
6314	14365	A	7063	1	621	
6315	14366	A	7064	362	720	
6316	14367	A	7065	1	2610	
6317	14368	A	7066	122	1840	
6318	14369	A	7067	1	1433	
6319	14370	A	7068	3	324	
6320	14371	A	7069	3	421	
6321	14372	C	707	185	397	
6322	14373	A	7070	3	552	
6323	14374	A	7071	3	600	
6324	14375	A	7072	3	550	
6325	14376	A	7073	1	102	

6326	14377	A	7074	3	1451	GAVRTWGRGFQTEKQASLLNFWNPPT TAQVTIEAEPKVSXGKDVLLLVHNLPO NLAGYIWYKQGMKDLHYHITSYVVDGQ IIHYPAYSGRETYSNASLLIQNVTRDA GSYTLHIVKRGDGTGETGHFTFTLYRH SLDSALSLEVTGSSQPL*DTWENCPTLW LHCLMTELTSGLDVLPVISAIEVPSPRS GFPVSKGFKDNWKFHHPSLGCPWQGKL QRKHTSGGKVRLLKRRFQHCMLQVRTT SVETPKPSISSNLYPREDMEAVSLTCDPE TPDASYLWWMNGQSLPMTHSLQLSKNK RTLFLFGVTKYTAGPYECEIRNPVSASRS DPVTNLNLLPKLPKYITINNLNPRENKDV LAFTCEPKSENYTYIWWLNGQSLPVSPR VKRPIENRILILPSVTRNETGPYQCEIQDR YGGIRSYPVTLNVLYTTKHSGLYACSVR NSATGMESKSMSTVKVSAPSGTGHLPL NPL
6327	14378	A	7075	3	435	
6328	14379	A	7076	79	1516	
6329	14380	A	7077	9970	11210	MKDACGGIKGATQDNLLSTQ/PKLPMP YITINNLNPREKKDVLAFCEPKSRNYTY IWWLNGQSLPVSPRVKRPIENRILIPSVT RNETGPYQCEIRDYGGIRSNPVTLNVL CEYPLFLCGPGHQLNSKRPEARPLSLSPV QV*TTLLDIRPGHDSLPWEILGRHSLNQ EYKGRGALVMGH*GPTACNERNRGIPQ AWA**T*MGFGCHLRCLGSEGHCVPLR DQEHPLPLDDITCGFILFPDGPDLPIYP SFTYYRSGENLDLSCFADSNPPAEYSWTI NGKFQLSGQKLFIPQITTNHSGLYACSVR NSATGKEISKSMIVKVSXGWIPASLAIGF *VESIWLSEKSENICIPRLCPMGTSKSQI LLNPPNLSLQTLFCLFFCFLMADLVSGL RKVGRGLYQP
6330	14381	A	7078	460	1832	QPVLEFLDPRLISTEENTQAAETMGTL APPCTQRIKWKGLLLTASLLNFWNLPTT AQVTIEAEPKVSXGKDVLLLVHNLPO LTRATIWAYKQGMRLHYHITSYVVDG EIIHYPAYSGRETAYSNASLLIQNVTR DAGSYTLHIKRGDRTRGVTFYFTNLY LETPKPSISSNLPREAMETVILTCNPET PDASYLW*LNGQNLPMTHSLQLSKAN RTLYLFGVTNYTAGPYECEIWEIRECQ ARSDPVTPEFSSRKLKPYITINNLNPGEE *GCL*TFICIEPKSENYTYIWWLNGQKPP/ VSSPRVKRPH*KTGSLIPTPVFTRKWQKQ PYSMWNYGDRYGGVRLSPSSPLNCSSYG SRTSPRILPFHFTYVRFREENLDLFLGFT GIFNPPAQYSWDN*WKSFLTRGQKLF YSGHITTKHSGLYVCSVRNSATWQGA PNP
6331	14382	A	7079	2	315	RWSLCPLQAGVQWRDLCSLKPPEFEKQ FSCLSLPSS*DYRCPPPCANF/SFFFVFLV ETGFHHVGQAGLNLTSRDLLTSASQSA EITGMSHCPRPTLSNSRVL
6332	14383	A	708	3	521	CKMDAGFFRGTSAEQDNRVSNKQKIKL LKQLKFAECLEKKVDMKVNLEVIKPAW ITKRVTILGFEDDVVIEFIFNQLEVKA*T KMEVPCV*SIAPSPY*VTAE*VSQCRSDP TPLMMQCVFGNPD SKMMQINLTGFLNG KNAREFMGELWPLLSAQENIAGIPSAFL EL
6333	14384	A	7080	1	534	
6334	14385	A	7081	1217	1545	

6335	14386	A	7082	2	1665	KKKKKQKNKKSSTGEASENGLEDIDRIL ERIEDSTGLNRPGPAPLSSRKHVLYVEHR HLNPDTELKRYFGARAILGEQRPRQRQR VYPKCTWLTPKSTWPRYSKPGLSMRLL ESKKGLSFFAFEHSEYQQAQHKFLVAV ESMEPNIVVLLQTSPIYHVDLSLLQLSDA CRFQEDQEMARDLVERALYSMECAFHP LFSLTSGACRLDYRRPENRSFYALYKQ MSFLEKRGCPRTALEYCKLILSLEPDEDP LCMLLLIDHLALRARNYEYLIRLFQEW AHRNLSQLPNFAFSVPLAYFLLSQQTDLP ECEQSSARQKASLLIQALTMFPGVLLPL LESCSVRPDASVSSHRRFGPNAEISQPPA LSQLVNLVYGRSHFLWKEPATMSWLEE NVHEVLQAVDAGDPAVEACENRRKVLY QRAPRNIHRHVILSEIKEAVAALPPDVTT QSVMGFDPLAPSDTIYSYVRPERLKSLS SHGNTIALFFRSLAPNYTMEGERPPEG VAGGLNRNQGLNRLMLAVRNDMMANF HLNDLEAPHEDDAEGEGEWD
6336	14387	A	7083	420	627	
6337	14388	A	7084	2	380	
6338	14389	A	7085	2	657	
6339	14390	A	7086	2	842	
6340	14391	A	7087	174	463	GSLKQGMFPSGLNRRLPTESPLQILRATF L*KEVA*GLHQYHLPLQLLSGPVFGLTH LQSAPVFREKPDPPPELPSLRVLRRTLDS WGARTHNYGI
6341	14392	A	7088	69	194	
6342	14393	A	7089	1348	2204	TWRLDPQIISSPKPQPGGTYTLEVVKSSK SKKVLSHP*WPLRLWQRGGSPGGT QAPDGLPPPPRPKSERVSGPKLSGGKR /EGSHPGGPPHITHP/DGEEKAKSSWFGL REAKDPTQKPSHPVKPLSAAPVEGSPD RKQSRSSLSIALSSGLEKLKTVTSGSIQPV TQAPQAGQMVDTKRLKDSAVLDQSAK YYHLTHDELISLLQRERELQRDEHVQ ELESYIDRLLVRIMETSPTLLQIPPGPPK
6343	14394	A	709	730	983	GAVAHICKSQFGRPRQAHQLRSRV*DQ PGQNDETPSILKIQKLAGHGGTRPLSQLL RRLRH*NHLNPGGGGCSELRSRHCIPG
6344	14395	A	7090	2	762	
6345	14396	A	7091	2	218	
6346	14397	A	7092	7	78	
6347	14398	A	7093	553	954	SRSRRGQKRRRWSTVWRLSAGACALSM QTPSRTSWPTAPFRAIWAETVAAWCRL RRPVWRVWSWSCLPTPITRATPLGARS WPGWRMWPLQAGSAVPTLR*PLKF PLPRVPGRRPSGAQSHREQCLQT



6348	14399	A	7094	1	1215	MTLKEHAAFKHLFNKAHLAPPLIHLTSL GHSTCFREHWVGDIVHRDLKLENIMVKS SLIDDNNEINLNKIVTDFGLAVKKQSRSE AMLQATCGTPIYMDRGWNSLEGSEQDR KMWDSLELPRDLLNVFEQNADNDMDDD EIQAEVLSGDDELLGNWSKGDSCYVLL KQLAAFCPLRDLWNFKLERDDLGYLV EEISKQSQIEATWVLLKAFFSFIRESAEHK NLENLQPDNAIEKKIPFSEEKFLAAEICI SNQEANVNPQDNEKNVSRACQRSSQQP LPLPRVLGGKSGFVGWAQDSHAEIYTFG RILGKGSFGIVIEATDKETETKWAIKKVN KEKLLLMKSNFLQPVRTTLCVAVQVSHL ANSFQLKSREKWRKPL*LKEHAAFKHLF NKAHLAPPLIHLTSLGHSTCFREHWVGDIV VHRDLKLENIMVKS SLIDDNNEINLNKIV TDFGLAVKKQSRSEAMLQATCGTPIYM DRGWNSLEGSEQDRKMWDSLELPRDLL NVFEQNADNDMDDEIQAEVLSGDDEEL LGNWSKGDSCYVLLKQLAAFCPLRDL WNFKLERDDLGYLVEEISKQSQIEATW VLLKAFFSFIRESAEHK NLENLQPDNAIEKK IPFSEEKFLAAEICISNQEANVNPQDNE KNVSRACQRSSQQPLPLPRVLGGKSGFV GWAQDSHAEIYTFGRILGKGSFGIVIEAT DKETETKWAIKKVNKEKSTAYEKQFPAT SKDNFDMCSSSFTSSKLLPAEIKGEMEKT PVTPSQGTATKYPKSGALSRTKKKL
6349	14400	A	7095	1	770	
6350	14401	A	7096	7265	7684	IVSLFLFILLVFWWWCFFFFFETVLLFS PRLQCRDVTSAHCNFCFPGSSDSRASAF RVARITGAHHDWTLIFCIFSRRDLSCWS GWSRTSDLR*SALPKCWDYRCEPPCRA* FFFFLYPLTIPTSLPAPHYPPSLW
6351	14402	A	7097	1	344	
6352	14403	A	7098	3	285	
6353	14404	A	7099	346	517	
6354	14405	A	71	134	450	QSPDSMNAREFRRRGMEMVDYVAYYM EGIEGLLVYPDV*PGYLRALIPAAAPH*L DTCEDIISDAEKIIMPGLSHWHSPDLFVY FDSVSSYARMLEDMQCGALDC
6355	14406	A	710	108	418	GWGGLLIARPPFKRGKSSGPVGHKLKPRG VGRRRG*NVNLCPKSSNPQGGGERPRE LRDKATVSALANFTARKGC*LRGPEGGO PGPRGKLFPGVPGVQGGQP
6356	14407	A	7100	3	173	
6357	14408	A	7101	256	352	
6358	14409	A	7102	1	203	
6359	14410	A	7103	1	112	
6360	14411	A	7104	1	1213	
6361	14412	A	7105	3	413	
6362	14413	A	7106	45	537	
6363	14414	A	7107	2	224	
6364	14415	A	7108	179	393	DKWRRLPWKRGVEVGTAGSLAKAFGFF AEAKTEPREGCSESGVRISYQ*VQQTNS KCLKY*MEPARPTFSP
6365	14416	C	7109	21	410	
6366	14417	A	711	274	394	SPFPKEVGGGKFLNLGGQRFWGPFGPL FSAKTKKGTSLK*GFKNPPAQGGKPPFF LKIQN*PTLGGGPLNPHFLRRLGGENF*T SEGKGFGDPNLALCSPPKQKKGLLF
6367	14418	A	7110	3	178	
6368	14419	C	7111	134	295	MNSVPLAKSVGLLRTRYDSPKQPLLCS EAVVLICKDLRSGWQKPGTQGIGG**
6369	14420	A	7112	3	864	

6370	14421	A	7113	3	155	
6371	14422	A	7114	1	122	
6372	14423	A	7115	84	579	NWKAGMGRPSTADYAMFKVVHEVDK YRFTYAYFAGGDAEDAFDGYDFGDDPS DKFFTSVHNGMQFSTWDNDNDKFEGNC AEQDGSQGWWMNKCHAGHLNGVYYQ GTYSK\ASTPNGYDNGI\WATWKTRWYS MKKT\TMK\IIPFNRLTIGEG\QQHHLGGA KQAGDV
6373	14424	A	7116	19	418	VEMGFCQADQAGLELLTSGDPPASVSQS TGITVLSLFFFETESRSVAQAGVQWRDL GSLQRP\PPGSRHSPASASRVAGTTGARR HAWLIFLYF/LVETGFHRSQDGLDLLTS *SARLSLPKCWGYRREPSAR
6374	14425	C	7117	207	401	MGXXIFXPLXKTPFFPGVWGNFSPGP GXPXPPRGGPPPLFFPQKKGXPPPPFP KVLGLQA*
6375	14426	A	7118	2	681	FFEMESRSVAQAGVQWRDLGSLQAPPP GFTPFSCLSLPRSWDYRRPPTLLANFFVF LVETGFHCVSQDSLDTLRSARLFFFFF ETESRSVAQAGVQWRALGSLQAPPPGS RHSPASASQVAGTTGARHYARLIFVFLV ETGFHRSRDGLDLLTS*SARLGLPKCW DYRREPPRAVRVYFYNRSVFIEYVQFC KLLFTFKINVRSONILGSPNILKSLKLN
6376	14427	A	7119	3	265	FFFETESRSVAQAGVQWCHLQSLQPLPA GSSDSPASTSRVAGVTITAT*VAGTTVV RHHAWLIFVFLVETGFHHVQAGLEHL DLR
6377	14428	A	712	59	306	FGTDRTAVQTSSQRLCLPWVAQKTYW LLVPSSLLKDLKEKKEVVEEA*NGRDAP ANGNAVSVCFAPEPWQLPPHKIFPVLL
6378	14429	C	7120	359	583	
6379	14430	A	7121	279	566	FRRRFLISLFFFLFFFCFFFETESRSVA QAGVQWRDLGSLQAPPPGFTPFALSPRL ECGAILAHCKLLPGSSHSPA\ANRVA GTTGTRHH
6380	14431	A	7122	237	523	PQEFKTS\PGNVARPQLYNFFFFFETESR SVSQAGVQWCDLQSLQAPPPGSHSPA SAS*VAGTTGAHHHARLLFVFLVETGFH CVSQDGLDLLT
6381	14432	A	7123	1023	1459	KGTRKRGQGIKVHLPILLFNLCFCTFG LFLVFLFPFFFFFFEIESHVAQDGVQ WCNLGSLQPTPPGSSDSPASAS*VAEITG TRHYAWLIFLFL/VEMRFHHVQAGLEL TSGDPPASASQSAGIRVMSHRLVFLYY K
6382	14433	A	7124	1794	4614	RFFSFFFFFETESHVAQAGVQWCNLGS LQAPPPGSRHSPASASRVAGTTGAHHH ARLIFVFLVETGFHRISQDGLDLLTS*SA RLGIPKCWDYRCEPPHLASI
6383	14434	A	7125	2	441	FFFFFETESRSVAQAGVQWRALGSLQAP PPGSRHSPASASQVAGTTGARHYARLIF VFLVETGFHRSRDGLDLLTS*SARLGLP KCWDYRREPPRAVRVYFYNRSVFIEYV QFCKLLFTFKINVRSONILGSPNILKSLK NLN
6384	14435	A	7126	3	226	CETESRSVTQAGVQWSDLGSLQAPPPGS RHSPASASQVAGTTGAHHHARLIFVLLV ETGFHRSQDGLDLLTS
6385	14436	A	7127	153	504	KHFFFFFFFETESRSVAQAGVQWRDLGS LQAPPPGSRHSPASASRVAGTTGTRHRA WLIF/VYFLVETVFHRSQDGL*KLRYE NSIENILVQCKLVYFSHCSRSEITVTGN NLL

6386	14437	A	7128	3	313	FLFFETESCSVAQAGVQWHDLSLQAPP PGSCHSPASASQVARTTGTRHHPLIFF VFLVEMGFHHVSQDGLDLLTLGSGHLSL PKCWDYRCEPPHPSSPSY
6387	14438	A	7129	3	307	FFFFFETESRSVAQAGVQWRDLGSLQAP PPGSRHSPASASQVAGTTGARHYARLIF/ VVFLVETGFHRFSRDGLDLTS*SARLGL PKCWDYRREPPRPAYF
6388	14439	A	713	171	565	TLAFFLIPCIGSPACPTMSDAAVDTSSEIT TKGLKRRRRKLWEEAENGKRRPCLTGN AENEGK WGSREADNEVHQEE*CGEEQ EEEEEGDGEEDGDEDETL SATVTRAT EDEDDDAVAPTKQTTRLDE
6389	14440	A	7130	2	91	
6390	14441	B	7131	3686	14131	MTNAFQYVQKNRGIDSEDAYPYVGQSY YNLVSSSQEESCMYNPTGKAACRGYR EIPEGNEKALKRAVARVGPVSVAIDASL TSFQFYSGVYYDESCNSDNLNHAFLA VGYGIQKGNKHWIKNSQSAQTVLTPDE CLLLGYLDKGKLRKDKAGSLQWAYM AIARLGGFMDSMPTGIAIWGALX*
6391	14442	A	7132	8044	8378	YIDVKTFFFFFLPETESHVAQAGVQWH DLSSLQPLPFGSSDSPASASRVAGITGTH HHAWFIFVLVGTRFHHLGQAGLELLTS SDPPASAPQSAGITGVNHHTQPQKFI
6392	14443	A	7133	3	283	
6393	14444	A	7134	2	177	
6394	14445	A	7135	1	491	
6395	14446	A	7136	3	612	
6396	14447	A	7137	2	137	
6397	14448	A	7138	1	2631	
6398	14449	A	7139	2	112	
6399	14450	A	714	1	1497	
6400	14451	A	7140	67	245	AYNLSGQYGLVDPEFEYFYLCCWLP L*LGGKCLWVLPVSVSGDRNDNDQAER NGSHL
6401	14452	A	7141	356	2252	RSFLDEEFPHYDSLSCADAIQQPLQEKLK QCCHKLYGGQEARIHQTPLTKHTCWY TPLLDALSLDSFTAVPTLESTPFSGVANQ IHTLCERPTYGEVKDGDLDVKRQHKCPG PTSGPSPGTNLSCIRMNDPSPMEENG ERVCPESLLQSRGYSSLPLPRHTSSDGTI TSSDPGLEILNMASCDLDRNSLCKKEED TRSASPTIEAQGTSPAHDNIAFDSTSKD KTILNLEAKEPETIEEHKKEHASGDSVV SPLPVTTVKSVMNRQSENTSANEKEVEA EFLRLSLGFKCDWFTLEKRVKLEERSRD WAEENLKKEITNSLKLESPLCEDDN QAQEIHKLEKSIKFLSQCAARVASRAEM LGAINQESRVSKAVEVMIQHVENLKR YAKEHAEELELKQVLLQNERSFNPLEDD DDCQIKKRSASLNSKPSSLRRVTMALLF LPRNYLGNAGMVAGMENNDRFSSRRSS SWRILGSKQSEHRPSLPRFISTYSWADAE EEKCELKTKDDSEPSGEETVERTKPSLS EKKNNPSKWDVSSVYDTIASWATNLKS SIRKANKALWLSIAFIVLFAALMSFLTQ LFQKSVDAAPTQQEDSWTSLEHILWPFT RLRHNGPPPV
6402	14453	A	7142	1	835	
6403	14454	A	7143	1	3735	
6404	14455	A	7144	2	1161	

6405	14456	A	7145	126	572	NFSSNKWNTSQNFANMDNSAQKNERTG KHPRRASEVQKNDIPGPGFYNVHQSPV SNSVSLSKKGTCTMFPSMCLDITVSKY PAANAYTIPSDFISKRDFNSCSCSMFQLPS FMKALKFET/PLAPNYYNASVSCCKRRN NVCTRAGF
6406	14457	A	7146	1	1261	
6407	14458	A	7147	107	227	
6408	14459	A	7148	3	407	
6409	14460	A	7149	3	608	
6410	14461	A	715	32	3730	NSERRGLGMSLADELLADLEEAEEEEEG GSYGEEEEPAIEDVQEETQLDLSGDSVK TIAKLWDSKMF AEIMMKIEEYISKQAKA SEVMGPVEAAPEYRVIVDANNLTVEIEN ELNIIHKFIRDKYSKRFPPELES LVPNALD YIRTVKVS AEKELGNSLDKVARAIEEPW QQILT NATIMVVS VTA STPQGGQLSEE ELERLEEACDMALELNASKHRIEYVES RMSFIAPNLSIIIGASTAAKIMG
6411	14462	A	7150	2	212	
6412	14463	A	7151	3	91	
6413	14464	A	7152	1	115	
6414	14465	A	7153	1	1279	MGDTPRQFGGARPRSGGALRGCRSRGG GNRRGLCLSRALANGDRRLTMDDIDAA LVVDNGSGMCKAGFAGDDAPRAVFP VGRPRHQGVVMGMGQKDSYVGDEAQS KRGILTLKYP I EHGIVTNWDDMEKIWHH TFYNELRV APEEHPVLLTEAPLNPKANR EKMTQIMFETFNTPAMYVAIQAVLSLYA SGRRTTGIVMDSGDGVTHTVPIYEGYALP HAILRLDLAGRD L TDYLMKILTERGYSF TTTAEREIVRDIKEKLCYVALDFEQEMA TAASSSSLEKSYELPDGQVITIGNERFRC PEALFQPSFLGMESCGVHETTFNSIMK/C DVDIRKDL YANTVLSGRTPPCTLG IADR MQKEITALAPSTMKIKI I APPERKYSVWI GGSILASLSTFQ QMWISKQEYDESGPSI VHRKCF
6415	14466	A	7154	1	111	
6416	14467	A	7155	143	295	
6417	14468	A	7156	186	437	
6418	14469	A	7157	3	356	
6419	14470	A	7158	1	220	
6420	14471	C	7159	102	407	MDAGLEAMQKYGKAAPGDRTMLDSLW AAGQELQAWKSPGADLLQVLT KAVKSA EAAA EATKNMEAGAGRASYISSARLEQP DPGAXAAAAILRAILEVLQS*
6421	14472	A	716	3	117	HKRPLMASYLLFFCSFVRVE*TIITCLT** ECHRYNR
6422	14473	A	7160	1	2302	
6423	14474	A	7161	1	178	
6424	14475	A	7162	60	413	

6425	14476	A	7163	2	1420	NSGVGAGARRAARCRAEAAA VGTARS PALGMALLVLGLVSCFFLAVNGLYSSS DDVIELTPSNFNREVIQSDSLWLVEFYAP WCGHCQRLTPEWKKAATALKDVVKVG AVDADKHHSLSGGQYGVQGFPTIKIFGSN KNRPEDYQGGRTGEAIVDAALSALRQLV KDRLGGRSGGYSSGKQGRSDSSSKDVI ELTDDSFDPKNDLSESVWMVEFYAPWC GHCKNLEPEWAAAASEVKEQTKGKVKL AAVDATVNQVLASRYGIRGFPTIKIFQK GESPDYDGGRTSRDIVSRALDLFSDNA PPPELLEIINEDIAKRTCEEHQLCVVAVLP HILDTGAAGRNSYLEVLLKLADKYKKK MWGWLWTEAGAQSELETALGIGGFGYP AMAAINARKMKFALLKGSFSEQGINEFL RELSFGRGSTAPVGGGGFPATIVEREPWD GRDGELPVEDDIDLSDVELDDLGLKDEL
6426	14477	A	7164	547	980	
6427	14478	A	7165	3	1290	LYSSDDVIELTPSNFNREVIQSDSLWLVEFYAPWCGHCQRLTPEWKKAATALKDVVKVGAVDADKHHSLSGGQYGVQGFPTIKIFGSNKNRPEDYQGGRTGEAIVDAALSALRQLVKDRLGGRSGGYSSGKQGRSDSSSKDVIKDDVIELTDDSFDPKNDLSESVWMVEFYAPWCGHCNLEPEWAAAASEVKEQTKGRVKLAAVDATVNQVLASRYGIRGFPTIKIFQKGESPDYDGGRTSRDIVSRALDLFSDNAPPELLEIINEDIAKRTCEEHQLCVVAVLP HILDTGAAGRNSYLEVLLKLADKYKKKMWGWLWTEAGAQSELETALGIGGFGYPAMAAINARKMKFALLKGSFSEQGINEFLREL SFGGGSGNGTL*GGGGFSLPIVEREPWDGQCGRFPWGDDH*PSVDAELDDLGLKDEL
6428	14479	A	7166	335	519	ILFPGGQGLRSSDQKAACLALL*FQKRS EMYKTK*FWGRKMSQFFSVVRHTNPG SRLWA
6429	14480	A	7167	2	386	
6430	14481	A	7168	311	493	
6431	14482	A	7169	2	82	
6432	14483	A	717	1007	1118	APGPCPNQTLARDSGWVG*KNHQLCTC VCVCVCVCVC
6433	14484	A	7170	51	347	
6434	14485	B	7171	188	353	XDVVVPVANCQVQEYNSNPKEHVTLRD YITYWKEYIQAGYSSPRGCLYLKDWHLCS*
6435	14486	B	7172	188	353	XDVVVPVANCQVQEYNSNPKEHMTLRD YITYWKEYIQAGYSSPRGCLYLKDWHLCS*
6436	14487	A	7173	753	1216	QVVEVGPPRGRHPSAAGCPSPA*RRWKT RRAGWAARSPAQRRRRRPAPRRRLP GPEPGRRRGHRPPGLSGCRRGRASRGP SSSARVEGPSSSLPPERKR*GPASEPEDA GRRVSAPPAPGARACTHARGSPRSSLR RRAAEAARSALGLV
6437	14488	A	7176	27	285	VFFFFFFLRRSLALLPRLECSGTIVFLVE TGFTMLARMVIS*PRDLPALASQSAGIT GVSHRAPASFNLTINILPPLLWTF
6438	14489	A	7177	12	336	SPVQL*F*LFLVFC*LWSWSAVVYLGPL GTPSADAHT/AGLSKTPPHWAARARLDD VFSRLTFSSHSLNMELVQDLTASAPMYS STSRDPP/CLGLPKWDYKREPPRAH
6439	14490	A	7178	74	463	HISQHDSRYLQVLLASYKTASLFFFLRQ SL/DSVTQAGVQWRDLGSLQAPPGFTPF SCPQSPK*L/SSWDYRRPPPRANFFCIFIV EKECFILLARMVISWPRDLPASASQSA GITGMSHRARPAQVS

6440	14491	A	7179	1	412	TRMGLPDASRRRTCRMDEPGWQEAMSS A*GRITLQRLSTGPEGQGGREKVGPEGG SENPQQPKAAGVLSKHLPGAPAPPPQRP PSSPPPLAGPLTERVEKVCDFLDAAGDY LN/GTPG*PSPGESPAADPPVPPWPP
6441	14492	A	718	1692	2123	SQPRFSWTQERLRLFPGMLLNSLIVSQAT QGPKLKSCLGSLMAFTFKKMEPSPMSCS PQCFGKPMGRLSGGQKFKNQAGQYH KTPSLRKSKKLASHGGVHLWS*LLRRLR QEDCLILGIRGCSEL*LHLCTPPSATQRDP LS
6442	14493	A	7180	117	295	
6443	14494	A	7181	279	1065	IQHPRLSADDFRVNCETEPAM/*HAVEN DIHGLCELQLETEIQAFKEELL/FMKKNH EEEVKGLQAQIASSGLTVVVDAPISQDFA KIMADIWAQYDEVAQKNREELDNRSQ QIEESTTVVTTQSTEVGAAMTELTR TVQFLEINLDSMRNLKASLENSLREVVA RYALQMEQLNGILLHLESELAQTWAEQ QCQAQEQALLNIKVKLEAAIATYRRL EDGKDFNLGDTLDCSNMQTIQKTTR R*TRQIVDGKVVS
6444	14495	A	7182	60	846	IQHPRLSADDFRVNCETEPAM/*HAVEN DIHGLCELQLETEIQAFKEELL/FMKKNH EEEVKGLQAQIASSGLTVVVDAPISQDFA KIMADIWAQYDEVAQKNREELDNRSQ QIEESTTVVTTQSTEVGAAMTELTR TVQFLEINLDSMRNLKASLENSLREVVA RYALQMEQLNGILLHLESELAQTWAEQ QCQAQEQALLNIKVKLEAAIATYRRL EDGKDFNLGDTLDCSNMQTIQKTTR R*TRQIVDGKVVS
6445	14496	A	7183	645	861	KYYRKRGIHSAIDASQTPDVVFASILA S*ATCKDLVFI*CWVQEGISFHPCEAM GGNDRTGKEKLPSG
6446	14497	A	7184	2	1327	RPQSLSPVLSLSPDSMSFTTRSTFNYS LGSVQAPSYGARPVSSAASVYAGAGGS GSRISVSRSTSFRGGMGSGGLATGIAGGL AGMGGIQNEKETMQSLNDRLASYLDRV RSLETENRRLESKIREHLEKKGPQVRDW SHYFKIIEDLRAQIFANTVDNARIVLQIDN ARLAADDFRVKYETELAMRQSVENDIH GLRKVIDDTNITRLQLETEIEALKEELLF MKKNHEEVKGLQAQIASSGLTVEVDA PKSQDLAKIMADIRAQYDELARKNREEL DKYWSQIEESTTVVTTQSAEVGAETT LTELRTVQSLNLDLSMRNLKASLEN SLREVEA/RRTPLOMEQLNGILLHLESE LAQTRAEGQRQAQYEALVNIKVKLE AEIATYRRLLEDGEDFNFGDALDSSNSM QTIQKTTPPG*VGLGKVVS
6447	14498	A	7185	2	345	FFFFFETESRSVAQAGVQWRDLSSLQA PPPGSRHSLASAS*VAGTTGVCHHARLI FVFLVETGFHHVSQDGLNLLTS*SAGLG LPKCWDSEKLFFFGDKSFRFCPGWST MV
6448	14499	A	7186	178	388	RREPLHPANLLFFFFFEMESPSVAQAG VQWRDLSSLQAPPA*GCHSPTSLS*VAG RLRNKNCLNPDAW
6449	14500	A	7187	546	850	FSVLFYFFESESCSVLQAGVQWRDLGSL QPPPPGSSHSPTSAS*VAGTTGTCHHTQL IFIFLVETGFHHIGQASLKLLTS*FAHLGL PKFWDYRCEPPHPA
6450	14501	A	7188	4	410	PIERPHELKHLPHVQKLVEDVGDGVIP AALEEGQAGWSHGFLVFLVEIKSAEGP/P GPADSRVRGVRPQRSQSAGPA*RAGRQ DGVCRSLGQGRGGGRATSLVLHPPGY GCWFSVGVPSLPQYTGIRSSSPRTRG

6451	14502	A	7189	148	268	LQPR*PLTCAPPPCPVQTQTHPISVSQTLL GLEFCCSLSL
6452	14503	A	719	1	371	HRHCHPSHTVDGRMESIDVATDGG*RTG VLAVSGLSVSLRTAELSTRKLLMNSEQRI NRIMGFHLGSGAVE*RHTQSMQHDSD KLNSLIIPSVSKRVVLVDVCTGTTDHDQ GVLERKVTTL
6453	14504	A	7190	397	1449	RSHPSGTGRRTSRLESWFLGVSCCKSKV REGPLGPA**AG*RGVRPQRSQSAGPA*R AGKRQDGG/SPEPRAGVGGVGTQSP/GP SGASGYPGMLVSKPVGGTSASWLPAGC PIPS*LS*QRSQSGSPSSCLIGHLLALWAAF GLGVTSLPQYTGIRSSSPTA*ATVQGDG HKGGTGGTGLGRGRNTQPDAAACGRGHR SSPTR/RPHGNPNNGTGAEGGQARSLLP KLAPKLPWPVSPVAVGPGDFGWQR AQYQSSLWDLSSPRNTLGRSATSAGPAP PALLGAGSGRSSGTSPAAPGCSSRCHCW ASAPAGVSGGPGGRGAEAPPSPTLAQR GSPPGAIAIFPPACGIPP
6454	14505	A	7191	47	1654	LHVPARPPGCCGAFLAGGPCPGWGQPR AQLWPQ/SAAPGPPHP/PALPSPVFETWP RLLSH*S/RPA/VEQCPEPHVYPDPASS WVPKSASPPRVACPCPPAL*/PFGDSC LCTAGLRGPGHDTLPQVWVRPHPGAS AEM*AHKPPPLAQKPPRSISVPQPSAQL WYPAGPWVPT*AGTWLGYGAI*SPQGLF SFYEMEHGVPASLNPPKWEPHDRV*LGG GR*GKSEVPRGTPSLTGLFRGVPQGPPI TGTQKHPFNDMVSFLISFFCLFCFGFQL G*/PPGL*SIHIEPLTGLPGCQG*A*P*VLL STAGSAHAV**GSELVHLQS*LHFPSCF PPVLALDLQVCRPALSAFLACGPPAIPGS WSPEGVSLWMGVGVVPLCGLSLYPA L*NLARRGPGQPFTGK/IGEGTPTPHKPC NHQVRKLGVLPGQGVKTKIEVGFWGPT R/PKAGETR*VGRVPQSLA*PQCVSP LP*LSGTPGRSWG/PVLSPTPAHSQALRL CGHSPPCWSLVIGLELYFDAMKTLFISNV YIF
6455	14506	A	7192	4	496	NRRTERLGRWCPCTGAWPAPVNLAKLA PS/HDSEQVSGCVPLAQSMAPPGPAWR AGHHRRRSENPRPGFFGSFFKRFGTNR GWSRRDDDPGGPGSGSRWPPAPRRGGQ WRCPREPG*RRSSSAGRGSSPCALRHRA TKASSSCSPCPPTTKRERALAAASC
6456	14507	A	7193	3	514	SVPKREELQGHHRVRGGEHRVWTRQDV LQHRLPATSVWTHPVLPTARAPALGRA SGAARRTAARAAPLPAVPAAPAAAAPGRA RPTTTWPASPPSPRSASPPTAPSSACWSP TP/GSPFALRPLRAGLGA VYTRSRAHPRR PLPAHLCLVLRHRATKASSSCSPCPPTT KR
6457	14508	A	7194	2	324	GGGFRPLFPPLWRPKPVGPVRVEIFGPAC PPWENPFSLKIPNLPGVVGPSDYSRFSEG LARKLPLTRKGRFR*PKFPPLPSFLGKKR EIRFPKKTKKKIFINSSSC
6458	14509	A	7195	3	344	ERQKLHYKYSKQFLTQFDWNTN/VKAE EPEEQKLATMFREQQKSC*ARMVQRQ RH*NKLN*NQQFLRSLEDLEENQSSFTD EQSDLRKEMARLQTKLMKETLQQDLALI HSC
6459	14510	C	7196	68	319	

6460	14511	A	7197	56	945	HRKLDNRNYSRHMGGSPGPEPRRAEEPC PPRCMPTKETGAFRSHTRSRLGPF*SLAE PPF/PRVPVSRGPLSASSPPPLSSRDAGLQ TSQLLP/SWGWSIPNSIPELDLGPLSPTGR LSAAFPSCRSPSTGNGKDATSQVDSHPA PSFRSPGLELSRCPGDPVTATSPHEWTQQ GKDWRPCSCPLVMQAPPTSHIFLPPPSRS SLRRPRAPSGCPWGC LG/RPPAGPWATP LAGLPSWSGVRLPG*GVLPASRGSG*G PPRHRPDAGSERPAAAAAGFAGP*VCSN SSALPSVYEGLL
6461	14512	C	7198	161	262	MLKGIPCLHPPLASSSQSDNSQKCLQTLF SLPR*
6462	14513	A	7199	132	1007	NPQAPQATKKEGRKNARKGGSVCSGVP WGPPPRKVPTVPWRAESPGPGESHAGFE SLRHGHAGAGPKGMPRLPTENTVSAE GSTGGESGARVPDTGKGL*PATHPLPWG SLSGF*ETQRL*G/PCLEGG/YPGEAGQSL ETFLAVV*LGAAG*GWVEARDTFKHPTV CRTAPTKESSPETQQSGAGIGEAAVWC QPHIGRRALQEACGEHGDGRFGGNHA E/PDRGGNEAAPTNNNPTHPDGHTSL*G/ VTGPSP/PGRWGN*GPESSEPLDPPPH PPTS WCGLFLRSFRLHS
6463	14514	A	72	218	428	LSSLPTTISR VFYNLS/CSHL*YSLKHFIY LFIYLFYLFYLFIFETESPLSPRLECRSGI SAHCNRL
6464	14515	A	720	3	408	DAWANARSVRLEVAGLRRDL*R/CSER WPLARATPFCFGSAMPYQEE SNLSLQ ALESRQDDILKRLYELKAAVDGLSKMIQ TPDADLDVTNIIQADEPTLTITNALDLNS VLGKDYGALKDIVINANPGFPPLF
6465	14516	A	7200	59	326	TGLSPGSEIGALPGNLV*APFFFNPKNLP GAVGPVGPVPPFWGG*ARLGGPRSSEFP LVGLGPLAFRLGTLGPVFKKNQESKKK TSV
6466	14517	A	7201	3	263	TLRKKFFQPGKTRFSPHTPFSSFFPQKK EKL*GGNPPKFPPPKKKPPPKKP/HPSSS PPPKSSSSQSHAPPKKGPPPEPLKKNPP
6467	14518	A	7202	1	348	RYRSGIPGRRTRAGETPSLLKIQQPG/GD GARS*SRLRLRQENRLNPEGRCSEL RLCHCTPAWARE*DSLKKKKKEFKIPIY FLTLLWDFRTQYTY SIPMCLLCGEMVT DI
6468	14519	A	7203	3	441	SSGSRSECRFLPLENVVLEILAGAIRQ/Q KE/IKGIHIGKVVS IKLTEVINKFIKVA*Y KIN/SNKSVC LYTNNEQLEKKFKISSSS SSSSSSSSPNH*GKDLYNENLKTLLKEM KENKWINIPCSWIRRLNNVNISILSKVTY KF
6469	14520	A	7204	3	310	TINCVDITDIYRLLHPSTADCTFCPSSNGI FTNIGHILGKTHINKFISIEFI*CLLSDHRI KLENNKTWKIPKYL*INTLIKEKCEEQF *NTVN*NPNTI
6470	14521	A	7205	3	88	
6471	14522	A	7206	2	1053	TMPSSVSWGILLAGLCCLVPVSLAEDP QGDAQAQKTDTSHHDDQDHPTFNKITPNLA EFAFSLYRQLAHQSNSTNIFFSPVSIATAF AMLSLGTKADTHDEILEGLNFNLTEIPEA QIHEGFQELLRTLNPDSQLQLTTGNGLF LSEGLKLVDFLEDVKLYHSEAFVNF GDTEEAKKQINDYLEKGTQGGKIVDLVK ELDRDRTVFALVNYIFFKGKWERPFVK DTVEEDFHVDQATTVVKVPYELKRLGM FNIQHLKKLSSWGAA**KYLGNATR LLSCLDGGGNLQHLGKIELHPTIHSFSL GEIEGQ/DRSCPALHFTQIVPLLGTYGFLK SVLGFNWGIH



6472	14523	A	7207	2	334	RDPPGPGPAITARERKCAKHPSLHQTTV THLKL*VVLAQLTLEETHCHANPDLIFE DMEAMTDLELHELCCQDRHINNQLDM DLILDGKGFQVVGILSELKQKDSSN
6473	14524	A	7208	1	306	LRRS/LCSVAQAGVQWWDLSSLQPLPG PMPFPRSLPSSWDHRRRPLPANFLYF* *RRGFTVLARMVVIS*PCDPPASASQSAG ITGVRHRTQPPRYVFM
6474	14525	A	7209	156	331	QPLILRCLPPRSIYRFNSIPIKIQVTFF*EK EKSLLKFIQNLKGP*ITKTILRKKKVD
6475	14526	A	721	25	494	PLTVSERWPLARATPFCFGSAMPMYQV KPYHGGGAPLRVELPTCMYRLPNVHGR SYGPAPGAGHVQESNLSLQALESQD DILKRLYELKAAVDGLSRRIKPPRATLD ETNIIQADEPTLTNNALDLSVLGKDYG ALKDIVINANPGSPPLS
6476	14527	A	7210	50	269	FRNIKHQRDYNEQ*YG/NKLDNPEDMNK F*ETRYT*/PNLHQEEIGMLNRPVTNKVL *LVIKIPLTKKSPEPDGFV
6477	14528	A	7211	584	1001	ILKLWGVGTG*TKVPPQVPPTPHSRA*GP PRRECLRRQ*PRP*SPGFGPLSFTSVELM GVKTVLSQASRERGSWG*KGSPLNGR QFWAQGGA/LSWVAWGGGGGWRGSNG KG*QPGEQSSQLPLPPRTWRMGPGQ
6478	14529	A	7212	79	315	ERDFLFVPRVGFQGNL*LFPLPGLPL FSGTLTLP/RNWGLRGPFITPG*FLDFLKK RGFNIVAQVGLKFWTSGDPPPL
6479	14530	A	7213	247	827	KYLEIVLLKY*RNSESCVILKCSFSLIL LELTMKKKILCLYI*LLTVQTVTQWIFV CPPKTF*S*AFNKDV*IIILIVVKLLV WVQYILSFLILLKLN*DVCFVLLH*VLF KNSLCVYELILDFLYSMIKDN*KFCTFL GPWKVFV*YFLRMSIYFVHNKLALYMK MGLNQIKKVMLSSKKK
6480	14531	A	7214	1	311	LNREKLKAFPLTSGT*QE/CPLSPLLNFNV REVLATAIRQEKEIRGIQIGKEEVTLSLFV DDMILYLKPKDCTKKPLEL/NTFSKVA* YIINIQISVAFNAKSK
6481	14532	A	7215	6	375	ESLRSPSRFS*PSPAYRGHGCSRPAETH NGDPCRAEALSDTPVPQSSGSDHNEKG PSRPFQLH*PGPWGPAGCRGPAPTWP RL/PAGPLRDSQEDPPSPPEPGSGGAAGQ GGG*GLSCFP
6482	14533	A	7216	80	251	GKFHISKTL**NINILL/VQLSVVAIGINY RTSNVEVLLQFLEDQNTFPNFEHLAYR
6483	14534	A	7217	161	333	GKFHISKTL**NINILL/VQLSVVAIDINIY RTSNVEVLLQFLEDQNTFPNFEHLAYW
6484	14535	A	7218	3	299	PPFRTHQARRFAPTQDWQIGFTQH/RP/G VRKQKYL*VDTFTG*VKAFPTRSDKA TAVITSLSDIIPRIGLPTCIQSSSTLALISQ ISHPSCQAATIQ
6485	14536	A	7219	526	1108	TQTKNSKIYFN*LLF*ETGPHSLSPQAGV WWHSHISLQPOPGLKHPPHPSLLSSWD YRHTSLRPANF*KIFVETGSLHVAQDGLE FLGSSPPVSASQSARIAGMSLGARARPC LK
6486	14537	A	722	358	445	NSFGRTIFFFY*FFFFFFFFFTIQTFGGGL SPFFLLFFINPFRFFFFF*TPFLRALAFF KPPFFFKIVLAEPYFFFTNPQILMRGGGG FSGRGS
6487	14538	A	7220	181	272	IQSWFNILKSIHVIHHSNRLK/NVNHIVSS SSSSSSSSSPFLIKKQ*KG
6488	14539	A	7221	2	334	YDEEWRRSTVHPDEVGNL*EDR*ALQ NRLRVFLSLMDTGWLDNLLDIDKADVI VKMLDA*SVIKMEGGTDNDLNILDQDVE DEHA*KPGESKNEEGRAVSGLDGERK

6489	14540	A	7222	1	323	VVSYLLVFESSK*KKIIYQDCIGFVQDC LNINDPIDSLRGKNVIISLDTEKVVGKIQ* PFMTKIFSKLGIEGNFLKWLYQSSSTVS LLNV*ILKAFLSRTE*GCM
6490	14541	A	7223	2	690	ATYIVDFGFQYNIREGQMLTAFCGMYP YVAPERSLGQACQ*PARDIQLSVILYFR NTVGRRTLPFYS/AEASKLQEKILTGR YHAPPLFALQLDSL/IKLLMLNARKGPSL *LMKNPVWKRIQKMPLIPYEEPL/RGPPQ TIQLMVAMGFQAKNISVAIERKFNYPM ATYLIL*HTKQERKCSTIRELSLPPGVATS PSPSTELSTFPLSLMRAHREPAFNVQPPE ESQ
6491	14542	A	7224	2	338	SSSYTPEYWQ*RSRSHSPMSNQRRTGR RANPDNPNTCLR/VFGLSLYTTDRDLREVC S*YGPLNGANVVYNQQTGRSQGFVH F*GIDDSKEAMVRANRKELDORRVRVD YS
6492	14543	A	7225	604	841	RPGGQFCLMEASPSGFNPFFLLNLPREW ELRVPPPTRGNFF*FLKKNQFI/EVNPGGF DFLN/SNDPPAFASKGVGLTALTP
6493	14544	A	7226	3	343	HEPNFGYAEIECERCNSPELDEEGYSIIPD EPGSTNGKHFYSSSESEY*E*SHKIIYIQI PSLSTDILNNAAPVDELKASIGNIALSP*P EGAIKRNLSSREEVARPRRFTSP
6494	14545	A	7227	3	304	HEEKNEKIRNVGLCEAIVQFTR*YL*VCL *RSVNS*NCCWRIVPNIFF*PL*TFSPSKP AKSLHTQKNRQFFNEPEENFWMVMVFT YTVYLSEIVWVELW
6495	14546	A	7228	1	167	SARGPDGFTAIFYQTFKEELVQILLKQFQ RIKGEVSSLSL*ETSITLIPKTRKGT
6496	14547	A	7229	2	334	ARDRAALETVIRRARPELRRPGVQGIPR VHELKIEEYVQRLQVGLDQPLNLAL ALYAHVA*EKRVVSILSRILIVILVESLI LLIIVLTYGYQLSILCTCSVGNIF
6497	14548	A	723	452	764	LLFSKCRAVEKNLSKEDPHMETIKVAFV MTSGERDTGLTEPMAG*RGSG*SG* ARGHETSLGHRGVSGDGGSMGSPSLTAN ALPSISRPFPDSVTDSGSAPL
6498	14549	A	7230	1	792	FFYREVKPSLFVDCKILITEIPKES/NRVL QITRELSKMLAYKVSMLKSILFILTREYK KVKMPFNIVY/NNTKYSRINLMKDIYDL YTAIYPSTAALKYRYMCNLQNIARRN*R PPLNKWW/REE*YSWIEGLVVKILVFPKQ IYRFNASPNKSPPLFNKLIPKFP*KYKG RRISQTNLGR/TLQDLKIYYKTLK/NIV WYWYEVQRLLPPAPQSAPIPRTCWQLS PSDLQGLKGAEGLTDWGGKQSGTEITS GHLPLSTFG
6499	14550	A	7231	1	2541	
6500	14551	A	7232	560	901	GNPATPSHCSLPQPPTPQEGAA/YNPDFF FF*KQP*QPKPVSSQPPWPLSTSLPPACP SCSRRAPAVPAPIQAPSAILPLPGQSVR LCVDPRHRQGPVNLLSDPEQGVETG
6501	14552	A	7233	13	2931	EEGRQSPAADVKTGLRAPLAASAWPH RCCVRRLLARITMKPPRPVRTCSKVLVL LSLLAIHQTTAEKNGIDIYSLTVDSRVSS RFAHTVVTSRVVNRANTVQEATFQME PKKAFITNFSMIIDGMTYPGIIKEKAEQ AQYSAAVAKGKSAGLVKATGRNMEQF QVSVSVAPNAKITFELVYEELLKRRLG YELLKVRPQQLVKHLQMDIHIFEPQGIS FLETESTFMTNQLVDALTTWQNKTKAHI RFK

6502	14553	A	7234	3	338	DAWVSVLCCNLSEAKRRINSLSYNCEN IRRLPSF/RDVWNGENSRYVEKQASEQQ VELLTNERYLMEESQLLLQYLHVYHMN YFLDLTCRPTFYCYLTEAPIG*PMCKGYL S
6503	14554	A	7235	147	380	ASCRFDFFCLLCYRVLFSLNLTVCFAAYR YFNIYMSFCFTFFLYFWWL/FCYDFLL/D YVF*TLILVLCFFPVSVFMFLI
6504	14555	A	7236	1	257	PTRPDFFAQQQHLTPDKIYHVTVMPCYD KKLEASRPDFFNQEHOQTRDVCVLTGGE VFRLLLEEGVSLPDLEAPLDSLCSGAYA *EPTSHRGGGSGGYLDHVFRHASLQFLD S/DVV*VSSIHLR**DFFAQQQHLTPDKIY HVTVMPCYDKKLEASRPDFFNQEHOQTR DVDCVLTGGEVFRLLLEEGVSLPDLEAP LDSLCSGAYA
6505	14556	A	7237	2	502	PVWWNLQRRTSAGPGTAVPGLAVA*FR QTGLTRSPSSGRDGAGVRDLWNPPPPVP IPLPLGFHLRGPDSLAEQPSACLPGS/PP CRNGLGQPQQHGHLPWG*IGIQFRLGFH GNQGPFGPSNLPYPPLFAAPLHTRHVP /LHCCPLTWAALPTPLCLWRCSAQD
6506	14557	A	7238	1	828	
6507	14558	A	7239	2	775	NISREMLQQSKILKVIKKNLVKKCLELFT ELAEDKENYKKFYEQFSKNIKVGVNNH* FSNWPL*FFFFFFNSESLCKEHTLFLQGIH EDSQNRKKLSELLRYTASGDEMVSLEK DYCTRMKENQKHYYITGKRTLCSYHT RRSYNLVGSVGVFSTQVALLQLVLI*AR* LT*TRFSVLGSA*VSG*QEKSEDETILN C*KV*K*LCNTSGETKDQVANSAFVERL RKHGLEVIYMIPEIDEDCAQQLLEF*GK
6508	14559	A	724	209	384	KYETIRYRDSVKGRFTIF*HLTKNCLHLR AIGLGADDSHFYSCANDVADSGTTLFFD S
6509	14560	A	7240	1	2303	QLLQRPQVAVPLVLCGHLAKMPEETQT QDQPMEEEEVETFAFQAEIAQLMSLINT FYSNKEIFLRELISNSSDALDKIRYETLTD PSKLDGSKELHINLIPNKQDRTLTTVDGI GMTKADLNNLGTIAKSGTKAFMEALQA GADISMIGQFVGFGYSAYLVAEKVTVIT KHNDDEQYAWESSAGGSFTVRTDTGEP MGRGTKVILHLKEDQTEYLEERRIKEIVK KHSQFIGYPITLFVEKERDKEVSDDEAEE KEDKEEKEKEEKESEDKPEIEDVGSDEE EEKKDGDKKKKKKIKKEYIDQEELNKT PIWTRNPDDITNEEYGEFYKSLTNDWED HLAVKHFSVEGQLEFRALLFVPRRAPFD LFENRKKNNIKLYVRRVFIMDNCEELIP EYLNFIIRGVVDSDELPLNISREMLQOK/S KILKVIKKNLVKKCLELFTLAEADPANY QKIFYEQFSKNLKALEYHEDSQNRKEA FPELLRYTASISDEMDTLKDICTARM KENQKHYYITGETKDQVANSSLCGT FRKHGLEVIYMIPEIDECVQQLKEFEG KTLVSVTKEGLAELPEDEEKKKKQEEKK TKFENLCKIMDKIEKKVEKVVSNNRLA VTSPICCIVTSTY/GWTANMAERIHGKLQ ALKETTSTMGFTWQPKKHLEINPDHSIE TLRQKAEADKNDKSVGILVILLYETAL LSSGSLEDPQTHANRIYMIKLGIDE DDPTADDTSAAVTEEMPPLEGDDDTSR MEEVD
6510	14561	A	7241	158	405	RMNLDSGMDDDIISQESSLDMEGNYKK AQKNEREAIRLILAL*SFDDGSRIYIS/CE QSGKQIFSPH**GINFQIGLSSTWSP

6511	14562	A	7242	3	442	TLLMFNNVSLTLTFCMFLEFSLPCTED VPTCGDSCDKVLECGIHRCSQRCHRGPC T*VIYFHA VFQAGPECLHCEEGCSKSRL GCLHPCILRCHPGECPPCVQMLGTAESA VLPQACHCPQFCLQSPFFLFTHKEPQSSW SSG
6512	14563	A	7243	2	322	SGWSLTEQDPYNNIVRTAIEAMAAVFGG TQSLHTNSFDEALGLSVTKSSLIFFSLHF LFS*QFSLSYISIFLFIFFYFYLSLLIHFFY IFYLISIFLFFFLFIY
6513	14564	A	7244	1	361	RELLAFWQNFKLRPQGPFSP/GPGGEKK R*SLPKTPPKGGPPGP/SPNGRLPSGGQLP PPRGG/SPQGSSSLPKGPQGWGPPFP*RS PCPPHRIGVPQVSSSPTPLGVFPRGPLNPG NLGG
6514	14565	A	7245	115	313	LVRSLTSLPHSPNP TLSPS*LPPYGPVY LSHYPPSPITSLTHPPSPSPPTSLPPPSP TPTS
6515	14566	A	7246	2	326	NEGECRKDVEMEPVLQAEKTNFQNHKG HEFIPTLWHFPANCDAKPLWHVIKPP PALECRCHVKCHRDHLDYTDLLIFPCN IRYDVSSTLRYS*LLHFSDEITII
6516	14567	A	7247	1	364	EHTRAEDHMLEEREER*RAERAQREE*L PEYQERMKTL*EADRNIRPRELEIEERER RTEEERILGDSSLRKDSRWGDRDSEGA WRTGPEAHSEWTIGSPQMEWRP*EWLY DDRSYTG
6517	14568	A	7248	86	512	RGRVEAAPGYGSHLCHNPLCTYQWKF GQPPGLQRTAASYSSDTMLGKAEHTPT FAFFPAQGPCKESWQSRDTSARSETLGT ACSNTGNWAGAAAHGDTEDLQWLQ RKRE/RSEKTRTDLKGVRTSNGTARDD NCAYSP
6518	14569	A	7249	2	703	PDCPSRPT/YARGTSPGNKTENAHKGPKS VSSAPKMR*SLQDTG/REDTREPVRFHDT TGTEQTVIFAD*KIAGRCKT*GQFPQR PPHGGGSTPQLFSAAGTSFPAFPVAVKV HGFKTSPTGRGGGHWANTRISFSWLATK KRESERKTRTDLKGVRTSNGTARDDNC AYSPHRRERGAPPAHGLYRRSVCARKN HIVLSKTGGRSVRRHDHRRSRSWRLRPG VSHHMRRSQR
6519	14570	A	725	68	362	SLPTIRECIYIHVVHAGDHIGNACWELCY L*HGIHPDGHMPRDLTIGGGEDSFNTFFT ETGASEVPRAAFADLEPTVIDEVTVTY GQYLQL*QLIK
6520	14571	A	7250	148	357	LGIDLTKKVKKLSKKNYKTLMKKIEDDS N*KDNSCL*IR/MTILPKAIYRFNTISVNIP MRFLPDADAW
6521	14572	A	7251	1	389	RGAQAIIVF/NLNDVASLEHPSKWLADA LKENDLPSVLLFLTRAQYALMEKDALQ VAQEMKAEYWAVSSLTGENVREFFRV AALTFEANVLAELEKSGARRIGDVVRIN SDDSNLYLTASKKKPTCCP
6522	14573	A	7252	1	144	
6523	14574	A	7253	174	809	DQRGGNWAYECQWEGPCRLTHPLLSTS HGRQWLADALKENDPSSVLLFLVGSKK DLSSVVPVGGPLPSLVRECPLTLAPQTP AQYALMEKDALQVAQEMKAEYWAVSS LTG/EGGFRALL*HSCALLSLLHLQLC PVSPDPALPLSTYLLSVGENVREFFRV AALTFEANVLAELEKSGARRIGDVVRIN SDDSNLYLTASKKKPTCC
6524	14575	A	7254	1	524	MERFEVLGIPFSLQLWDTAGQERFKCIAS TYRGAQAIIVFNLNDVASLEHTKQGV AECLKEE*PSRVVLFLLGFKKDLSTPAQ YALMEKDAFPGGPRRLKAEYWAVSSLT GENVREFFRVAAALTFEANVLALEKIG CLDUICMVRD*SDSNLYLTASKKKPTCC

					GLDVIGMFVRIN\SDDS\NLYLTASKEEAP HVCP
6525	14576	A	7255	1	258
6526	14577	A	7256	2	562
					RCFARYRPVHADPLYCQGHAAAPVGYST VSRTHAPGG/VQLPPPPPYTA/GRGAQVG RGCSPARSGAWPHRSGAVDHPLTQGDH TAPDHSSGLNDHSHHGAGARHLPPQ HAAWPP*DLNPCRTQPS*PSHSPRGSPL APVAPPWALGWNQYFPPKSDSLLLLAK LYLIQWVFPCTVDFPNVINFNK
6527	14578	C	7257	30	323
					MRLQLPSTSHLPVKRGXKEGEAVVLPEV EPGLTAREQEATPRPRETTQLPTTHQALG WNQYFPPKSDSLLLLAKLYLIQWVFPCT VDFPNVINFNK*
6528	14579	B	7258	249	374
					RLRWPLREVQSVQDQRCITTKPREPVSGI RYCDFLPGVYDCT*
6529	14580	B	7259	77	867
					XAGALQDITLSQQTSTWKTQLLTAIPT SPEPTGLEATAASTSTLPAGEGPKGEAV VLPEVEPGLTAREQEATPRPRETTQLPTT HQAQSTTTATTAQEPATSHPHRDMQPGH HETSTPAGPSQADLHTPHTEDEGGSATE RAAEDGASSQLPAAEGSGEQDFTFETSG ENTAVVAVEPDRRNQSPVDQAGATGASQ GLLDRKEVLGGVIAGGLVGLIFAVCLVG FMLYRMKKKDEGSYSLEEPKQANGGAY QKPTKQEEFYA*
6530	14581	A	726	1	1254
6531	14582	A	7260	93	1049
					TSGSHSGITQFLPCFSGAQPTGQSP*KR SPGPQHRAARCTHFPEGSFFGSSCSRPR NRAWVSAWWAGS*RPQWSQELTQTP KQAGGQWRGPAPSRTPMPRLLEPPQHP KEQERHGVALEQSR/PRTLPPALGHTCV* DQPSAFPVPAQFWGNPSMGS/HERSWV CHVL*LSSHPLIQRRGSPCPPVGLGISP SPCPGGQPRQPD\SSLLGA*ASGFSGTPK FKGPGTHHGPCQPLPSPAGLGSGLGEDL EAVGRTQPSNA/PLAPGQ*ATGGSALQPP VHTASNAPGPVSPDAPPPLDQAQRLQD QAKAKPCPR
6532	14583	A	7261	2	643
					PRVRLNGIVDR*VLGCLPCYDLGIFTDRD LGVHADAHDLVENLAKDLIA**IPFLAEGI RIHGDKVTVALRPFHERMEACFKQKE MVENEYGVIMPSSLLDD*RGIRPRSMVR AFTMPSSSRPLSVASVSSSLSDSTPSRPGS DGFALPLPKMLSRSHDKLYKDDLD DKKDYMTYNWTCRQFQISRDKMKRTD VSLYIMLVSPNPNLSY
6533	14584	A	7262	59	339
6534	14585	A	7263	2	519
					ILFLFLFYFISFLRWSFTFVAQAGVQW*D LDSLQSPPPRFK*LACLSLLSSWDYRHMP PRPANFLYF**RWGFTMLARLVLDSPQ/ CDPPASASQSVGITGMSHHAGPTMKLLN PQSEVIFSPRNSHSTLLTPLSRHLPHPISIS TWCIIHYAPLHTVSISAEAPWLFACQOS
6535	14586	A	7265	3	317
					EESFTAHLRHRGVQPFPCGQCDKAYG TQRDLKEHQVVHSGARPFACDQCGKAF ARRPSRLHRMTHQVQLPMLAHALCG AAPGSQGFLWNHMLRHT*KKPFL
6536	14587	A	7266	285	672
					PLCTREKSEYMCTSYSLARSRVGQTLCK GVQWRHLSSL*PPPPGFKQF/SCLSLPSR WDYRCPPPHLANFFYF*QRQGFTILARL ALNS*PRDPPASASQIAGITGVSHRDLII NFLDFEGYT*SATDS

6537	14588	A	7267	3	231	QIEQLHRRF*AA*/RGDQPTIRKENFNINV PDLELNPIRSKIVRAFFDNRNLRKGPRGL ADEINYEDFLTIMFYFLSI
6538	14589	A	7268	88	360	KINMGILLKL VYRFSIHPVKTPAGLF/TK NEQ**TEFDKRLKSIWKCKE/PYSTRTMF KKTEAKGLPS/P/DFKTYEATEFKTS*D QQKDRYKE
6539	14590	A	7269	2	355	RRLLLLFFFFLRRSL/DSVAQVGVQVWHNIG SLQAPPPGFTPFSCSLSPSS*DHRPPPCP ANFLYF**RQGLTMLAKLVSTS*PCDLPA PAHQSAGITDMSHRARLIVSLFKRQKTY GNN
6540	14591	A	727	65	1552	PLKAKMGKEKTHIWINIVVIGHVDNGQVSP LLGHLIYKCGGNDKRTIEKFEK\EAEM GKGSFKYA*VLDKLK\AER\VERGITT\DISL WK\FET\SKYYVTYPFDAP\GHQRLLSKN MIYRGHLKA*PGLGGPLFGGVLP*LFAA GVWWNLKAGISKNG\Q\TREHALLGLHT WVWKQTKLFGVNKNWIST*GHPTAQKK ILKEIVKGKSALT\LRKIGYNPDTSSILCPIS GWNGDNNAWSPNA\NMPWFQGDGKVT RKDGNASGTTLLEALDCILPPTRPDKPL GLPLQDVYKIGGIGTVPVGRVETGVLPK GMVVTFGPVNVTTEVKS\SEMHEALGE ALPGDNVGFNVKNVSVKDVRRGNVAG DSKNDPPMEAAGFPAQVILNHPGQISAG YAPVLDCHTAHACKFAELKEKIDRRSG KKLEDGPKFLKSGDAAIVDMVPGKPMC VESFSDYPPLGCF\AVRDMRQTV\AVGVK AVDKKAAGAGKVT\KSAQKAQKAK
6541	14592	A	7270	1	336	RGDGTGRTLAQRGARSSG/LPTV/LNPGRQ LTSAG*PH*YGKARAAMPTPSLVRPVLK VGHSPSPEVSGSAAEIAPWTISSPLYNPSS LPGPASSMPPIPNSPLASPVSYTVLV
6542	14593	A	7271	1	371	RSRPELNDYKDKKAATKNVQKK*MQRQ KG/DIAIDATETQRIIRDCYEHYNKMSSSS SSSSSSSSSS/PSSSSSSSSSSS/PSSSSSS SSSQSLPSKKNSGSEGFTAIFYQRYKTPL ILKLFKK
6543	14594	A	7272	2	406	ARAARVFLHRTSLNLSNGGTQC*KTMV VHDEYSEPCMTSPKEGTLIVRQTQSAS STLQKHKSSSFTPFIDPRLLQISPSGGTV TSVVGISCNWMP*SIKHYPQKGSLSF* ISTHTYPSAFCVIFLHYC
6544	14595	A	7273	1	165	GSLLPLLFNIILEVLAKAIRQEKSIQNEKE KV*LSLLTDHMI/YM*NPTVKKLT*KL T
6545	14596	A	7274	110	409	
6546	14597	A	7275	53	930	ARSYRQLTMEANGLGLQRIHTDTYPHPH LIARPQGFPELKNDTFLRAAWGEETDYT PVWCMRQAGRYLPEVRETRSAQDFST CRSPEACCELTLQALRRFPLDAAIIFSDIL VVPQMFSPPP\ALGMAEVTMVPGKPSFP EPLREEQDLERLR\DPENVASELGVVFQ AITLTRQRLAGRVP\LIGFAGAPWTLMT YMVEGGGSSTMAQAKRWLYQRPQASH QLLRJLTDALVPYLVGVQVVAQALQLF ESHAGHLGPQFFNKFALPYIRDVAQVK ARLAREAGLAPVPM
6547	14598	A	7276	86	552	KQPQPTAPLWQPLKLSKLGAPGHGPC CLHLLSALGSLPGLVPWLPSPRVGC/SS*G LLLTSPQPSADPGQRRVALHHVL*VEP FASQEAQPPPSLP/WW/PLRGDTESPGGPS PLSARCTHPGCRSVRGRWGRARGWPAR CQAGGPGGWRTTCPCR

6548	14599	A	7277	176	779	NSVSKLGLAPGHGALLPPPAERSREASQI PRGRAPGVHYLCLKQPRPRGLLGPQONE RPLPSKPHLCAGLCGGPGTSPLPFETIR NWARRPPEA*PQGACI/LLSLGDPRGVG *PWV*TPGGLVFWMSLWHFGPQLKPPPL PRSLRPRPSLDLLGRKRHQGQDEKPGGA APQMRAL*PVLPLPPHPGTAPQLVTATR KP
6549	14600	A	7278	32	492	FALVGQAGTQ*CDLGSVQPPPLGFK*FSC LSLLSS*DYRHVPPCWLFVFLVE/QGFVI LAKLVSNP*PQ/CDPPILASQ/SAGITGVS HCAW/L*LSFSFFC*DRVSVTQAGMQWH DLSSLQPLPLGFN*FSCSLPSSWDYRCV PPHPANFFIFSR
6550	14601	A	7279	19	253	LENSFLKTLPLAJACRNIKYMNLTKCESC KLRENKDLNKWGSTPCSTIGKLRIVKMS FLPKLIYKSQKTFFLQTLIK
6551	14602	A	728	344	803	KRDPSLSAYPFFKCNLLSTLHFMTAYAS LYFIYTEPVFVQHDWLHASKAL*IPFHISPS TTIPLTMVSQPYTEHYIVTKLGEFQVSK GNYIHKRFCAIAQFTI*LVTQPTMLR*ISD YLDKYIGFCPPQPMKQERHTYSPPYQGC VYSVVQS
6552	14603	A	7280	3	1023	FLNWKSKILYSTDDMIYIENAKESRKKL LE*VN*SKLLDTRSMYKSNAFLYTSNNL GKPAF*KPYPLAJACRNIKYMNLTKCES CKLRENKDLNKWGSTPCSTIGKLRIVKM SFLPKLIYKSQKTFFLADIDKSCFF*DSFT PGLPRLEWPWPRSAH*KPSNLPGSSNSP GLSLPSSWDSTSACHRRLANFFVFLVEM W*CMPTVPTTWEAKERAHLSPDVRGYIS CDCATTLPQGQNEISASNKTTVINIVSY WCKVIHTRKWCPEQTTSMSLRVFTNL* RLGHWESRVSTNRTEPTNHTDKKVNLD PYHIWYTKMNSKWITDLNVKGKTIKVP
6553	14604	A	7281	1	407	DVCKPDLTVGLRYAPHQYKSVVATNLP EAKYWFLNWIADLSKAAPRNNDVALGTS AQAYYGYRKQEQUILL*EEDALTGTNESL ERQMREMEENFAVEAANYQDTIGRLQD EIHNMKEEMARHLREYQDLLNVKMGMP
6554	14605	A	7282	1	3003	MNIDAKIHNKILANRIQQHIKKLIHHDQV GFIPGMQGWFNSTKSNVQIHNRNTNDK NHMIIISINAEKTFDKTQPPMLKTLNKL IDGTYLKIIRAIYDKPTANIIPNGQKLEAF PLKTGTROGCPLSSLLFNIVLEVLAIR QEKEIKGIQLGKEEVKLSLFADDMIVYLE KPIISAQNLLKLTNSNFSKVSQYKINVQKS QAFLYTNKRQTESQIMSELPFTIASKRIK YLGQLTRDVKDLFKKIYQSLN
6555	14606	A	7283	2	178	PRVRWN/RKVQKQIISIHGGQ*IVDKGSR TIQ*RKNSVFN**C*DK*IFTCKRMNLYL YFVSSSSSSSSSSSSSSSSSSSL*EENTGI NLHDLGFGNGFLDMPKAQATTA*LYL YF

6556	14607	A	7284	699	2526	MQYNIFQVLYILDELHGILGNLTNKFH RSIVANNLDDLDEKTHQLTKLAQKEIKN PNRPVTSKEIEPVIKNLPATKESPLNEFT GQ/YYGQTY*RKELTLILLELSQKMECKG /V/FPVTFYKADITLTPKPKDLTGNYRPI SLMNIDAKKLAKILAGQIQQLIKMITQHD QVRFIKEMQGWFWHIQMSIDVIIYHNRM KGKKVHMITSIDKKKHLTKIQHPFMVKTL CKLGRKGNFLNLIKTSIKTHS*QHNSKTL KIFPLIS*KFLISPLLFNILEGLARAIQEK EIK*IQIGRSKTTFAENMVLYIKNPKEST K*FRLI*KFSNVAGCKINTQKSKKNLRG N*/RQF/PFTIT*KRIKYLEINLTKKVQDLD TEKYKTLKKEIKEDLNKWK/NILCWQVG RLNIVKMALLPKLVYRFNTIPIKJPV/LF TETEKLTLEFIWGLQV/N*RYSSLFKTLN KNKVEGLTFSNFKIYCKATSIKTVLCWY KNI*SNRVEWKVQKQITPAHLWSIDFWP RGSRTIQ*RKNSVFN**C*DK*IFTCKRM NLYLYFIPYIKINSR*IKDPKCKSVNPIKL *EENTGINLHDLGFGNGFLDMPAKAQAT TAKKKKK
6557	14608	A	7285	2	577	KKIKNIKGSIQQEGLTVVNMYAPNDKPS TYMKQKLT*LKGEVDNSTLIVGVNITISV VDRT/SQYLSKEI*DFHNTINQLDLTTIYR TLYPTMKYTTFFSIHRINSKIGHKLSLN*F *KTAINIFPDHNGMNLVIIPKKKTGKFKN HRN*HTLNH*IKKETTRHWLKITPRLWP WQVRVFGAQSLOQPQLTAR
6558	14609	A	7286	17	377	QRKACAPRAWSGDPSACRPSVRS*GSTT *G/KPVNFDDYGDYIPAVNLKTFLRELA ESLLTFQAYDQILGITCEYLPWRRSGGLS PHMLSLIYWPMVRLWGGRGDVYPSCYC CHMALYGM
6559	14610	A	7287	1	893	SISSQQT*SSWAPCYRSLPASTWASSLCS SSLSISFSFSSVYSSPPGSSITPLASILSAFF *PLDFSSLASVSSLLPSLNLTFVSWLPPAS PLSSLAFPASTLVSGLPASSLMSSLPFGS ACLSSPTSQHACSS/STLSQSLPSTSCCLS LQTP*TLPDWGFERSQKGT*VW*ALRKT SPFSSSTSGLGAESREQQLGAKTNCASS RDRSSRCGSTENSST*GPTPRSSSR*PIPGS SSPGEKAAPAASAWAASPSSAPTHSGYE LLESSRKEKESCTSWDESSRAGAKSSGP ES
6560	14611	A	7288	827	1393	ARCRQAREDGRLVQRLCRRGHFVPLQH RRGAQERAPGIAHSSCAAEPRLSLRTDI SSALVWPRASCARSCPEMGPPLKWA GA*TLIECPPLSGSPRKNLD*PPGLEEPS RLEGGTPSSALLKG/PAPTYLPPYALD PKPTS/VQHSPTYPHVLPIPTPSSWR VVAVGALCSRQDNLHDQRL
6561	14612	A	7289	104	464	
6562	14613	A	729	209	372	KRKKILRINKTKS*FFEKINKIYKMLTHL RRDKRQKKSEIKKGJITTDITEMKK
6563	14614	A	7290	2	394	PRVRNHPQKWAKKGLADSHLSKEGPQ/A AISHMKRCPASPATRE/VQIRATGETHLR GCGNIGTLTRC*WGCK/LLQPLWKPVW WFLRSLSIGLRCD/PVATPLLSV/WPQAC KPGTQRDLHTTVFTAALFTVAEQ
6564	14615	A	7291	2	344	DTRTHVAEEDKLAIVEPEKRGKYVWWF DPLDGSSNIDCLSVATIFGFYITNSSD*P SFNHAULST*RNLYLVSLPFHLAFLSTFHL SFLFFFLSFLSLFSYLLFFLSSFFSS
6565	14616	A	7292	1	348	RYRSGIPGRRTRAGETPSLLKIQQPG/GD GARS*SRLRLRLRQENRLNPEGRGCSEL RLCHCTPAWARE*DSLKSKKKKEFKIPIY FLTLLWDVVRTQYTYISIPMCLLCGEMVT



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6566	14617	A	7293	10	436	EYYRFLEAKENRTATY*NL/MDHAAKAE LRGKFISIIYAIKKLEKFQIKNLTMQSKK LEKF*IKKSSNVFQARKEQTKPQISQRK *ISEKE*TKLRLNQCHKKSLKQPLLS*TK KDQNK*MRKEKGDIKLSGRVGRPEYLQ T
6567	14618	A	7294	2	403	CPTSTSTSWTMWGPACREHL*PLPTFP GQQPNTLP/RPTLRP/SP*TPTSACS/RP*/P AVPSRPSHPSHLPPSCPPQFTFNPHL**G GPHPTHNLPPNPCALLQLPGFSTLPRLS P*TPPTPPICHCVSRFLAP
6568	14619	A	7295	27	88	CREEDDDLVESEDS*QWGESLKRVSFTL LDDEATEDAGDLNVKKSDEVKSFKEKR QEKESA*VGRKMMTWLKVKTNNGEK A
6569	14620	A	7296	109	409	KFKNMWKLNDTL/LNNHWVKEEIKKEIR KYLKRNNENKNTTYQNL*DSAKPVLREFV VINAYIKIEEGSYISNLTLYLKDLEKEIKA KVNRRKDIRITEIN
6570	14621	A	7297	13	811	VCRRWSGGLARRFGSGCCSSCPORRA ARRSQVQNGKYL/FDQINRSLENYEPCSS QNCSCYHGVIEDLTPFRGGISRKMMAE VVRRLGLTHYQITKNRLYRENDCMFPSR CSGVEHFILEVIGRLPDMEMVINVRDYP QVP*MDGACHPS/SPSVRHQS/DHDIMY PAWTFWE/WGTCCLANLSYRSWTEGPL QRRSGKVSITQWPWKKKNSTAYFRGSR TSPERDPLILLSRKNPKLVDAEYTKNQA WKSMDTLGKPAAKDVHLVDH
6571	14622	A	7298	22	426	IFSHYFFQKFLRPFIMFIMHLLGCKVDL FIFQCFHFLVFYFGLFYLLKLCYTFKFT NCFLYSFSFTVHLI*YIFPSDIMFLYEV* FKSFF*RYLPLCHVHAFISFLNILSLFSS* **LTIFYCPYLLFYH
6572	14623	A	7299	131	353	IFLPEKKLYKLEKWDRAFDNT*NF*T*/I HTGEKS*KCKKWDRAFGWPHFIIGKIV HTEKNFYKGEQCGKTFN
6573	14624	A	73	702	1281	AVEMYLVCVGTVAISRVRMSAVCVLRT WSRNAGQLI/CFTVFQPCSNVHVL/KGP NYVCFFGVYPSFKYSHPHNFVKTNVAVC GQLVQFRFPDTEEGIRKVTV/KCYVKEG DTVSQFDNIGKVQSDKASVTIASPYDGV I/RKL*HSLDDIAYVGKPLVNIETEALGT VNLFYQIDYCPPFVIGSQLKVTFKKKK
6574	14625	A	730	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFDSFGNLSASAIMGN PKVKAHGKKVLTSLGDAIKHLDDLKGT AQLSELHCDKLHVDPENFKLLGNVLT LAIHFGKEFTPEVQASWQKMTGVAS LSSRYH
6575	14626	A	7300	131	418	IILTEKKLYKLEK/CGQGF*QHLKLLNIKN HTGEKS*KCKKWDRAFGWPHFIIGKIV HTEKNFYKGEQGGKTFNEGSHLIAQESI YT*KKLSKYKD
6576	14627	A	7301	305	326	KTFRSQKKK*IHWDYIKILNFCARKNTIS KVKRQPT*EKIFANHISA*G
6577	14628	A	7302	3	416	FLR*IGSHSVTQAGVLWRDFGSLQPLPPG LKLFSCLSLSS*DYRRVPPCLAKFCIFS/ VRRGFAMLARLVLS*L*VVCPPCHVD LYN*SASQSAGIKGVSHHTWPHKYHLK NLNVFSYQSKSTVNNQLSSQILLN
6578	14629	A	7303	3	474	

6579	14630	A	7304	2	1050	REDTKAAVLLHLLHNVRPQDQTVVVFV ATKHHAEYLTELLTTQRVSCAHIYSALD PTARKINLAKFTLGKCSLTIVTDLAARGL DIPLLDNVINYSFPAKGKFLHRVGRVA RAGRSGTAYSLVAPDEIPYMQDLHLFLG PLPHRPPTPQGALRVWAGVDGHAGVGV PQSVVDEEDSGLQSTLEASLELRGLARV ADNAQQQYVRSRPAPSPESIKRAKEMDL VGLGLHPLFSSRFEEEEELQLLDLVNSIKN YRSRATIFEINASSRDLCQVMRAKRQK DRKAIARFQQGQQGRQEQQEGPVGAPPS RPALQEKQPEKEEEEEAGEKCEDIFSEVG GRKRQRSGPNR
6580	14631	A	7305	3	872	PKSWNGPPHPPGHRHSRSHSNFSGCSVD EERSRTSKDSSSPVNDHRGRQ*MR*KNP FAASSRSTSSSSSSSPPLWSTAGRTPT TRSGPSPALDKVQIYMEHLLATAST/EPA GSAHVPGLHFRAE*VLPAL*GRALLGTP VTNNLLGEIAKPSLSQSKRLKAAS/AAKY PHDVVNHLSCDEARNHYGRRGQPHPPH PRTK*KNGSPTPRSCARCCST*VSPRRT RRAPGDPLVLRP*GPSPGPLNTSVSSQ KPASNPGDVQNHPPGGLLVGNCNSEPGA PSAESFAV
6581	14632	A	7306	99	433	KLKVKGGKRYRMLTLIKRK*H*IKIONSC VFLYTSN*ELENK/IFGRYVSFMA*KKKS/ LGIILMKDV*NLHSEDYERLLTKIKDDSN KWTDMQFTRIR*YHKMLILK*PIIY
6582	14633	A	7307	18	146	LHDSNTRSPQFQKSLGFSTGRHRCVP*EG L/RSVTQAGVQWPIHSSLQPRPPGLQSDP PASACQAARTLCRWY
6583	14634	A	7308	1	240	LVCLSKSECLQPLFYHHLTLKNCQFHLC RILLHPQC*KQALRHGKACPLCHCCSHA ALYMICLAKED*KTFDPQELMYSL
6584	14635	A	7309	2	1790	ANQLQGEVRFVVDRCPAEQYGAGHL STAFHLDSDLMLQNPSEF/DTAIL*SLLEA KQQSIESGSIAGGEHLCFMGSGREEEDM YMNMLAHFLQKNTEYVSASGGFMAL QHHLADINVDGPENGYGHWIASTSRRS SINSVDGESP/KWLCKLRWILKHQV
6585	14636	A	731	99	641	APSPDAMGHFTEEDKATITSLWGKVNVE DAGGETLGRLLVVYPWTQRFDSFGNLS SASAIMG/NTPKVKAHGKVLTSGLDAI KHLDDLKGTFAQLSELHCDKLHVDPENF KLLGNVLVTVLAHF/GKAEFTPEVQASW QKMAEDVTGVASALASTYPLSSLAHDS ELSRDRLFLCKQIKI
6586	14637	A	7310	1	1424	ARILLDNHDYAMEKLKKRVLEYLAVRQ LKNNLKGPILCFVGPVGVGKTSVGRSVA KTLGREFHRIALGGVCDQSDIRGHRRTY VGSMPPGRIINGLKTGVVNNPVFLLEIV DKLGKSLQGDPAALL*/EVLDPENHN FTDHYLNVAFDLSQVLFATANTLATIP AALLDRMEIIQVPGYTQEEKIEIAHRHLIP KQLEQHGLTPQQIQIPQVTT*WITRYTRE AGVRS�DRNLGPLCRAVAVKVA*GQRT EPIWTVLM*LREKVAENTS*KMKNLNL /RDTDLALPPEMPILIDFHALKDILGPPM YEMEVSQRLSQPGVAIGLAWTPLGGEIIF VEASRLDGEQQLTLTGPSSTVMKESAH LAISWLRKQKESTKLTNAFGSFDLLDN TDIHLHFPAGAVTKDGSPCWEVTISNLSR PQLFSGRLVRSVDVAMTGEITLRLALPV GGIKDKVLAHRAGLQVPIPR
6587	14638	B	7311	169	379	VSQRLSQPGVAIGLAWTPLGGEIMFVEA SRMDGEGQLTLTGQLGDMKESAH LAI QLGSAATQRSTQLTNX*

6588	14639	A	7312	3	411	HHFLTCRIKNKINYTIATKTIKYLRINLRN F*SLTKPKLLKDIKVDLNKWKNIYSWL R*FKLTNISVLPILIYNKIPI*KINTFFIKLD KLMPKFI*KNKHVKIGRK/ITKKKSYKGI LTLSDIKTYKVSIIKTV
6589	14640	A	7313	2	423	SFPLPFPLPPCSSPQGPQLLRKAITRPWPG TCPYPASTQVGFTLRTRPQLSVGV*EEG CPYPSPADSPMSEDPGAAPPHHPRSPL*R NR/C/SSKGKTAVFAWPASHLASPLQPTG LPGKRNNMLSVPNNTQPDAWVAPE
6590	14641	A	7314	2	416	ILSTLFQICHCLWSSQLLLTSHCQYHYCC SSKNKNLAWLLKFLYNLEA*FIHLA VIFLYLSCLGFTALYEFVVCFLLLVLRSY SVLLFLSF/LFWNFSVTHILELLCPICLLNF VLLFMYFSFVLQFGYFLFLCLQ
6591	14642	A	7315	2	411	RQGLTSLHGPEVQWHDLSVLQPLPPGLK KIFPPSASRVAGNTDVHHHAWLVFFPFF VRRGFAIVAQAVLQNPGLQAICPPMASP KCWDYRRGPPHPAQE*EHFLRSLPSTGE SYFGEL*HISTRKIKILVHFEETN
6592	14643	A	7316	2	333	TEPALSPRLCSGTISAHCKLR/LPGFMLF SCLSLPSSWDYRRPPHPAGFFVFLSRRT GFHC/RLARDGLDLTS*SARLGFPKCWA DYRRDDPMPGPVSNRMENLMETVD
6593	14644	A	7317	3	232	AASTPRPLRFLPSPTRGLVPN*RP RRRT SSAAUTPAPEPAPTSARPTRSNTHRLSP WSSRPVTEEMQSAAKHNG
6594	14645	A	7318	1	385	IPWSRVG*NHPVKNAHLPKAVSKFKTISI KKPPLFFPRMEKTILKFLWDSSSSSSSLPV *SSSSSSSSSSSSSFSSSSSSSSSSSSSSSS SSSSSSSSSSSSSPTHKIKPNTYRQLIFD KANKN
6595	14646	A	7319	2	409	DRKEERLRSPRSGAAATMSSGKGVAE WDPLPCLDPFLWDQFDNLENHLSLEKFI SAKERTIEISYTKQLRNLLKTCQPKRN WKEKEYIT*NSPSLPVNKMSDHARQH*V IFFEVLNFQITVELQGHVQNOQKE
6596	14647	A	732	154	411	AGQPGPEGIQLG*PQIRDKGDQMGP HPC W*VCGTLTPNTSF*VFCCVAGRDGAPGV KAHFPAAQKPWDGGFPGP*SAGVGPPPI PR
6597	14648	A	7320	58	501	DPRVRPGTRGPRSGTAGGETTWEGPFGV IVRVLMLFSYELRAAELGEVGAGGPRGA RRPSQTETAA*PASRFVRGLGPQTLRPTS PGPRRSRPLLGDPEPRRRVGGASFPTRN GSGAWALWRRPCWECSSRSFLRTTKLF LFFGFG

6598	14649	A	7321	381	2378	AASMEHIQGAWK TISNGFGKDAVFDGS SCISPTIVQQFGYQRRASDDGKLTDPF*T SNTIRVFLPNKQRTVVNVNRNGMSLHDCL MKALKVRGLQPECCAVFRLLEHKGKK ARLDWNTDAASLIGEELQVDFLDHVPLT THNFARKTFLKLAFCDCQKFLNGFRC QTCGYKFHEHCSTKVPTMCVDWSNIRQ LLFPNSTIGDSGVPALPSLTMRMRRESV SRMPVSSQHRYSTPHAFTFNTSSPSSEGS LSQRQRSTSTPNVHMVSTTLPVDSRMIE DAIRSHSESASPSALSSSPNNLSPTGWSQ PKTPVPAQRERAPVSGTQEKNNRPRGQ RDSSYYWEIEASEVMLSTRIGSGSFGT VYKKGWHVNVAVKILKVVDPTPEQFQ AFRNEVAVLRKTRHVNILLFMGYMTKD NLAIVTQWCEGSSLYKHLHVQETKFQM FQLIDJARQTAQGMDYLHAKNIIHRDMK SNNIFLHEGLTS*KFGDFGFATVKISRWS GSQQVEQPTGSLVLAWMAPEVIRMQDNN PFSFQSDVYSYGHRCMELDGRGELPYS SH/INNRCFRSIFHGWRGYASPDLSKL YKWC PKIAMKRLVADCVKKVK\ERPLF WQILA\SIELLQHSLPKINRSASEPSLHRA AHTEDINACTLTASSPRLAGLPS
6599	14650	A	7322	3	419	EPQWQALMPEKEPARQSRGGALRTDSS EPSRNEVKKTISFIILAKRTYLEIYATQDA *NLCTEKYIFLKG IKEYRTKWKDILQS WITRHNVKMAKLP/KFIYSFTICKMP\LS FYKLILIFMRKYKGCRIANTI*RER
6600	14651	A	7323	3	222	DAWVTSTNADKEFEKIQHPLMIKLSSK* VYNMSYIYPLFKIIKGIYDKSLVNIILNVE KLKAFFLRTGTRE
6601	14652	A	7324	2	395	GRQPRWRLWGQLLSSGRRPLEPGWHRP SRGERGHASFPEPGPCPGPQRPQG*V PVPEPPPKGGPEPRSSGRKASGPSAQPPP AGDGARERRQSQQLPEEDCMQLNPSFK GIAFNSSLAIDICMSKRL
6602	14653	A	7325	63	451	KNQE QESEETLPNLFYKASITLIPKLDTQ K*KKRKEKKRKKKK\EN*KPITHRNIYAK ILNKILAHQIQYIGKIIHHDQVGCIP/GAF DKIQYRCMIR/TLQKM GIEGTHLNIKA IY IRPTDSIENREKP
6603	14654	A	7326	2	137	SKAKINGWDYI*LKCWYTAKKAISGVKR QPT EW/EKIFAN*SSDRR
6604	14655	A	7327	755	1287	GGWDFAPAEGRERLAPCQIWDPSCLP W*PLSGLLSRPPPGTQSPQLSPYSCAKSW CPCPSLSPGSPMN*PSVPRTTGPSHPEPSA HGSHTSPIVATTERAPERISGGDSLGLSPS GLEGVNREPLFTPPSSSGSSVSLMSSTPAP PAGHSAA*SPQPGRCSGPAQGGATSRSV RGP

6605	14656	A	7328	1	2239	MEERKGHKEIHLRRLKVRILSVRMSAIK ESPRLLIGNQEPLKQLKQESKMNRVYFN TDYSGCIRLIQSRLSHFPSSGQQNPKPY MRKFKTPLMIAEEKYRQQKEEIEKQKQE SSYYNIVKTQSQNQHITVEKEMPLQKT NEEVSLSGIDSECTVVQSPSGSQSNARIL GVCSDNQLSTTSPETVAAKRLHHVLAAS EDKDKMKKEVLQSSRDIMQSKSACEIKQ SHQECSTQQTQKKYLEQLHLPQSKPISP NFKQSEIDVQTFKKQYLKTKKTEASTE CSHKQSLAERHYQLPKKEKRVTVQLPTE SIQKNQEDKLMVPRKQREFSGSDRGKL PGSEKNQGPSMIGRKEERLITERKHEHL KNKSAPKVVKQKVIDAHLDSQTONFQQ TQWQTAESKAHEHKLPPYNSLQEEKC LEVKGIOEKQVFSNTKDSKQEITQNKSSF SSVKESQRDDGKGALNIVEFLRKREELQ QILSRVKQFEAEPNKSGLKTFQTLNTIP GWLISEDKREYAVHIAMENNLEKVKEEI THIKTQAEMLVSYENIIQTAMMSSKTG KPANGA/ALVSTKTSPPKVSNVHVSNNEN SEQEN*IAEKTQVHQVAAHDEATVRS HVKTHQEIKLDDSNIP/LP*KHSPPSPTFI TIESTARRTENPTKNELSQSPKDSYVEP PPRPMPSQKSEIHRANTSPSPRSRSEQ VRLKDTTAKLSKGAIPCAATPVPIVEKR SEIIMSPATL
6606	14657	C	7329	110	298	MPWISEGRATRPCLRVPSARRGDEGLHQ RATANSVYKSRNTWLCWICKPPQSSSPK ISEKRF*
6607	14658	A	733	233	353	STAPGSGRQRTVSEEP*PHSTEDGQRGQ WGGTSLQHQAQD
6608	14659	A	7330	127	742	LVRVFPWREDKVWWHCQE/CRPKR*KS KPGLSGPV/APGHSWDSTETTEATGLLLI PGPTRRPPTYHTPCCLSVPRWCRPSSPL LAEGTRRQGLVALPSLIHQIPMGLEW GLASPPRPGRKWHR*KDKMATQALSVC RA*TCILPPSTKTSRPRPHSTPRGPAPTTV QRNSRRVNGSPESPLPRPGLPVSEPHVA GTRTARDG
6609	14660	A	7331	2	433	FEDIK*VIGKVKKMMSKQQRGNINKGKIJK RNQKEIVELKSTVTIKINLLGGFKNRL*Q TDK*ISYF/EDTTVEISQSGKQSSSRLEGR EQSLKNLWNTIKLTRVYTVGVSEKEKKE QIV*KISAGNFSNLIKNMNINIQAERTP
6610	14661	A	7332	1	281	PR/PPDRDSEAPGADGAGPRGALPVPGGH GQDPAEDGPGVHAGGARDGGDPARGA YPPMPSTRGCRKGSANLP/PVGFQYVH PFF*FPGVTAKIQRMDQVFTLAVRETE ALIPPEVPTRQCPAHEAVGVHWHLICH WFSICPSLFLISRAQYFYP
6611	14662	A	7333	33	427	GSPAPGLPKGWGFRGGPPGPGKFVFFKL PKGGFPGAEIFLGEFFQRGKKGLGPIPPP VFLKTEEGGTLNSFFKGRVFLVFKPKA GSSSSSSSPNYKPIYLNNTDTKFFNNMLA NRI*QCIKEVMQYDRTRG
6612	14663	A	7334	491	731	DRGLCLPTLEVQWAPILGSLQPPPGFKQ FSCLSLPNSWDYRCMPTCPANFFVFFCIF **SRFHQVGQAGVQLLTSSDL
6613	14664	A	7335	2	575	AGQVGQLGFPGWAGGEGRGRPPLL*LSL PGRQLPREEGLTSVSGHPCWP/DSFFGLP GVEKPQGNLAAGGALLPKLQRQSGPGNH KTLPISRGPADPGAVPVCHSTVGPRG*HS LALHTVPPEKFNIYFFTCPENSSFNLSPLP FRSSLEGIAQGVSSAWGHSAGPGLGLS GDGRQRQARRFSLHSLPCSP

6614	14665	A	7336	19	422	GEKTDKIQHPLMIKTLTNLGIEKAYISIIK VIHNRPMACIIINGAKVKAFVRSERQRC SPSPLLFNIGLKVPVRAIEKEKEMKGI*IG KKEIKLCLSGNDWMTLYLKHPKNSTKTIR TDTFSKVAGYKNTDAWV
6615	14666	A	7337	33	193	GNLGETLMDIGLGKEFMTKTSKAQATKP KI/DWDLN*KSFCTDTNIMHMLIYL
6616	14667	A	7338	87	713	DIYYNCFGFASRKTDCLSTRIPCFTERTSS NS*TQNLTLALF*IKYDCATVQACRSRNLK WEVRDALNKFSGTNSIFYIIRFYIYIYIF FFFFFFETESHVAQAGMQWRNLGSLPA PPPGFTPFPCPSLLKWLGPTRRPP/RQTL ANFFVLLVETGFTMLARMVLIS*PRDPP /ASASQSAEITGVSHCTRLKKIRFAKHV EFFFESHVE
6617	14668	A	7339	2	105	ENGWCWIATYGKRKLDYSLSLHARVNS R/WDLDLGTETMEILEENLGEVLLDIGLG /KEFMTKTPKADSTEIKINR*DSYIWKNE NWIPISHYMQELTQEGLSRN
6618	14669	A	734	1017	1880	TLAKWWTRREQSQLSTQASSYHQWQR VGACGQAARMRSAPAVIPTRPGEFVHQS LESASNSRLQPVSTGHRSAPEAGLLTG CVLMPGCSASQASMEHLSWSPCPDGFCT YRVLRSCPLCNSRPDGPEKENHGOEPE AAVRSQPEGPEGGTRAGRPEPGGGPHLQ EPKASETHNPGIPSREGAAAQGHLCQSG THVRGGKQPSAAGPGRIARVLSGPPGPR ARGRGCADGS*ASPRARSSCRSGRSRA AAPRRRRGGAGAACARAGCAGG*AGS AARGSSGR
6619	14670	A	7340	2	362	STHETFSKIDHMMSTSLSKIKETIVLSIPS SSSSSSSSSHSKSNLQNYTNTWK/LNLLQ NDF*VNNEIKMET*KFFEMNDNDTSYQS LWD TAKAVLR*NRKDHKLT*HLKELQ KHEQTQS
6620	14671	A	7341	58	341	IKKFRWGPKEPPLKEPPGV/SPDFPII/NFGN PGPVPGKDFKFPNFSSSPWGGRAFPVVP TTPGG*MGRFP*PPAFGVPRGGDGSPPPG APKEGPLS
6621	14672	A	7342	2	428	FLRRVSLYCAQAGVQWPTSVTEPPPPGFK *F/SCLTLPSSWDYRRAPPRPAKFCIF/M* RLYFTILARMVISIS*PCEPPASASQAGNT GVSHRAGLVFLNKPVTGLGFDSDHHPYH SQISEKDPPPISSIFNKKSIHTNLLIPN
6622	14673	A	7343	2	686	PGPPPEVRQHVRVPGTRTGRAAIWPGSFP VGFP LHRAGRGQSPFPFPGTKGLGLE WKGCCHAGA QETGSLPIMVHFSGSWE MVS RGKPSS*QLEA*GRGRAPGLGSKAG PRLHQDTPASQCMWVCLNTPSRQVRG PDTQGYVCVPLPPQHAPRMNQGLPPG APPPPPPSLVPKYFPSSQSSWDRKIPRLQ APPCPRH/GPPS/AVTNALPNGPRLSAEA PWLG
6623	14674	A	7344	1	603	SGCSRRCPGPWACWTPQKGFRRGRKRR SGLWGLCCWCRRPHSHRRAGCHHQDGE CDRWGLLPDRHSRLWIFLRNYWHQLGG E*KANAGGSDRVYQFWG/AGPPSAAPSG AAYLQHSTLNRGPSREDASFTPVGWGT CTMSTRQSPVTPWTASAS*R*EATPVT AVTSM PAGA QSPRPPTMSSASAAARTG CTWNGWFWAL

6624	14675	A	7346	19	1562	GRYWRVVDHGRESRVSGPRFRPSFLAA LPPGRHPWPWDAAGGSPAS*GGAA*S ALGLSQPRPPGASDAAPDSTPAGV*TASS SALIPSRAR*KGSGTLEETKSRRPHSHRS GPVDLSRSSHSDSTPVHGPYFRSAPDP \GAPPRPSAGQSQLGGSSGSPGNSIPCAF VQQ*LERA*RSBS/SPGSEHRA*SGGLR QGVQGIEVFGLGHPPGGYSCGPQPQEK PPPAHPLGVEIWCRLYIGWKSHPHPA LAEDWQPVPPAAMAVGAPGLRRIQRTS RRWGQCPNEAGHAADPRDSGPPGNYQP VSLHILHMDPGTC*PE*QHPRPPL*MAG KQWPCT*LDKGQSLGLAGSHQHQCQW W*QQLQSHTSLCRSPPPR*RASASPC*AS WGRSSAGAAGFRALGR*HLGTSPLGSAG SLPPCTAEPADASP*LSPTVLAELGSEG ASEECHSCPHGSPQSLSGSHRPAESQYH VER/WKQDMGPISVKSPTRRGPTSGSGL LRLARSSL
6625	14676	A	7347	473	792	MLARALDARFLRWCRRDQPLVYHSP*PP GASDAAPDSTPAGV*TASSAPAGEKDA NQMEWARR/VPRAPPPGSPGPSLIPSRAR *KSGTLEENKSRPPTQSPFGAG
6626	14677	A	7348	3	411	LCAAVNRALDEGIPLTSALYYATVTLQ VRNLRSDTDVSMPLVEERHRLYDTG KILLEKFGGFLNCVRENSAQKLMHS WAESCPYRDVTLVEGKRASFYKRTQIL VSYTCIVLEGK*DACLQDILSITML
6627	14678	A	7349	2	331	AGGPGLPCVPHLPAGARAWRCQPPGA ACCPGRRLPLP/GKPSPGSSSRQRGQS CRTVSVLPSSPGC/RGSQVRPDLGPPKA EGCSPWGLRAESCGATGARVRCHRCVV
6628	14679	A	735	1000	1211	VPSTVLDALHILFCLISFLKNKLGWCSGL TPVIPGLWEAEAGGLESQEFTRLVNM AKPCLY*KYKKLA
6629	14680	A	7350	1	1062	EAGPGGQAARSQRGSSSLGLVLPRLRQ CGAPEGHASPTAGPGAPNQLAAPWLL WPCA*PPPGLCYPAPPPPPQKHP/GLLPA PRALPSPRELPGEEPSAHPVHQG/PSRA TRPASASFKSHSGEFRQGLISAAHILQELP GPAGVENFQVFNGAAGPAARHGPPSSRS SC/PCTHGTSGNREKPLSTKSKKNKKA WQATTQAGGPGLPCVPHPAKQVLAHGD ASKPPGAACCPGRRLPLP/GKPSPGSSRS RQRGQSCRTVSVLPSSPGLPGTKVRPW *GHLASLVWPGPPGKSPGQSTRPVGTLK RGVHPLPQVVGQSRFVILVLFGRQCQEG RAGMLGTCCLLAKPEVTV
6630	14681	A	7351	423	826	QKVCAHT/CLRGTC*IFTHLCVLRGLCW LLGCCEMCM*MKYVCMCEK/CCTFVG RC/M*VCVCAGDREHLAECVRGCVRHV CTRA*VRMCI/CVCTC/LCV/CV*VSGVCI CKSPCVLCKSIVN/CV*A*THTWFCVHVC V
6631	14682	A	7352	310	863	STHLSLPKCWGLQA*ATLAQPNRSLLK YKFIYMSKGHYSVKVEKQPTWGRKIF WQTMVSG*GGLESRIYKELLQLSNKKTN A*LKSGAKAQHRHFSREHMHGQHQH QRCLIASLIREMIQMT/LRGYFTLIRMIIT RKSDNN*CWQECAEIGTLL/HYWWECE MVHGRGKIVWQFLKNIQLP
6632	14683	A	7353	3	357	SISNENFPTKESQGPETFTGEFYQTF/DLS PILLKLFQITD*AGTLPSFYEISITIIPKE* KSQENYSAMYLNMIDTKIFHKILATQI*P YINVIIHYDQVGFIPIGMQSSFNVIN
6633	14684	A	7354	2	207	GRVDHHPGLPRPLCPHSPDP/PQRM*SH SAVGASGLADPYERIVVS*DGNSSPNH QGDGASQTSGEQI

6634	14685	A	7355	1	801	QPRDPSSGTHHPDGRGGQPAPICPRQG SCSHSPLEHAPCPILGPGSWPRWHL/DLL SLLGDPKVGPIACPPGSPPHA WTGPVA CPGLGQPCSCPTILIPHPICQHPKAPGGH PLCSKLLTCLPATPAVPSQPGHHHPLFIM SGLMGAWPSPEAGPGVLPSTTAE*GTR HWTHEEEAALGATDAVTS*PGFGRQVP APRMPAWKPCIRGLLHSLPSEKPLQVH RECVQPCEGLGPLAQTGAQAQAWGPT DLSPQLPHRKHLK
6635	14686	A	7356	3	926	SSGTRHPDGRGGQPAPICPROGSCSHSP LEHAPCPNLGPGSWPRWHL/DLLSLLGD PKVGGPIACPPGSPPHA WTG/PLWPVRAL ASPAAAPPILIPHPICQHPKAPGGHPLCS KLLTCLPATPAVPSQPAIITPCSLCQASW EPGLLQKLAPA/PPKLDHVGPRSQGGPD VGVPVCTPKSRPSTCDTTTLPGLNEER ATGHMRKRLPWELLM/PVTSPLWLWAA GPCT*DACLEMSLHSWPPSQPPPREKPLR SAQGVCAAL*RAGTTLPLRLPLRHKAW GPTDLSPQLPPQKASKINTRGMESVK
6636	14687	B	7357	73	255	XGSSEQDTCNPGPCSSPTGNPEWGLR DTALLEDLGKASGLLLERMVMDPANNK CLIFRKN*
6637	14688	A	7358	1	710	PIEITSQCGGIPRFAPITVGVRSLLPHHS RGEGLQPPPSQSG*GSPAS/HHHSRGEGL QPPPSQSG*GS\QPPPSQSG*GSPASGPGF CWGQ/RP/PLPSCSYSPGALQSSRTPAQT QGAHHLRGSGPVHGGPPAPSPSCCLLP/ SLRVLPPGLPAPPATSTVCPLPVCTPP WVICQPPYPLAHQAGLG*LPLGDREGVP FHSPNPSLQVCPRPLRKPRWSSGLGPH AHNPMPSMGRSPPRATWTLT
6638	14689	A	7359	3	750	GRGAEQGSHLARAAA VPGSGPAWRPRP RGGLGLRPARSALRAGLPPGRVAAVGR GPALPGQG/HLQSSRTPA/PNPGPCSSPTG EGVPFHSPNPS/H/GKSVPGSSGKYDPLGP VGLCPHAHSPMPSMGRSPPR/GKRG L*P DAQMQEP/SKWGLSGHSPPGGPGKGQW PAPGEDGGHASQQQMPDLPEKLSPSFTP AHLHSLPEA/PVRHEPCLPR/HGPCGRQP HPVCARHRRARRAQAQNKACPAAGKK KKKPVPN
6639	14690	A	736	109	346	PRSLSPHRPAPPSVSVGFRPRGKRGQTQG DKGKCLGYRGPQQL*PHGTPGPTQGRR ARGCYLQPGAWGPLLSPWECDV
6640	14691	A	7360	102	380	GKKIPMLYFAEIEQCILKFVKRS*KAK*I LPKNNKAGGLKFPDFKTYKAAASKHQ VGGLWKELRSTLQAQQTWVPREELRST SPSYQTQVQ
6641	14692	A	7361	190	375	VIYRVSIISIKIPTTFFTEIEKTYNLG/WND NRP*IPKAILSL*NKVGDIPLDYEYHLN MN
6642	14693	A	7362	102	345	GKKIPMLYFAEIEKCILKFVKRS*KAK*I LPKNNRAGGLKFPDFKTYKAAASKHQ VGGLWKELRSTLQAQQTWVPREELR
6643	14694	A	7363	12	380	DPTVCCLQEHLTFKDT HRLKVKSWKKI LHANRNQKKAGIAKLISKIDFKSKTVK RDII*MIRASIHPRRLINSYI/WAPNIGNT*I HKILKDLKGGINCNTIIVGDFNTVHR*SRQ KINKHWA
6644	14695	A	7364	3	298	RRSI/NSVAQAGVQWRDLSSLQAPPPGFT PFS*LSLPSSRDYRCLPPCLANFLYF**RL GFTVLARMVLIS*PSDPPTSASESAGITGV SHCAWPISFS



6645	14696	A	7365	82	526	NHSELQLKLRVA*KMKCTADLSLLEKDT *IKLEENR*QERIMLRAEVNEIENKIENIN KTGSSSEKYYKIDNPLTRSIRRK\*T*ITS FRNEKGSVTTNPTEIKRTVKEY/YYEKLY ANKFNNLDEMCKFLKHNLPKLTQKINR KSECS
6646	14697	A	7366	146	588	LPQVMAEFRNPNPGEVEGRKAKSMKGQT TGKNQDNPNVIDEIDFLEAFKNIQPS/LFE ASLGLMGIKPVDWEEIGGLEDVKPEVKT AH/WSLRQKSGHCPV/GARLPTGLLATL GSGSGSGRATEAVSGPAG*KRASIGGSS QPRRRFPTVP
6647	14698	A	7367	2	1041	CREAAMHALLHSEKDNPNVIDEIDFLEAF KNIQPSFRSVIGLMDIKPVDWEEIGGLE DVKLKLKQSVESPLTFPWEFVRMGLTQP KGVLLYGPPGCAKTLVRLATSCHCSF VSVSGADLFSPPVVDSEKVLQIFRQAR ASTPAILFLDEIDSILGAS/RQPSKTGCDV QERVLSVLLNELYGVGLKTIERRGSKSS QQEFQEVFNRSVMIAATNRPDVLDLAL LRPGRLDKIYIPPPDHKVARLSIYKRLYK KPCPIGPDVSLLENLAETCFFSGADLRNL CTEAALLALQENWTRPQLTVKQEHVF*N HLRL*NRSVKVARTWLVMKTYLRKKDF LTVEGI
6648	14699	A	7368	1	2046	
6649	14700	A	7369	1	4340	MSAFESVPDDEEVDVDAVPENKLTDFNL AEGFRLFKTACDFLYHMDLSMNEDIEKE VKEEIDPDEEESPKKKHLDKKRKLKEMF DAEYDEGESTYFDDLKGEMQKQAQCLG GRSSVSMQAHRRPVVHGGDSCSDPAAM LTTVKAFFTGGVLQRGGLQSSWQAPIF MDVGEWEQRNWRLNCRKLLWGFAAER SREMKPLLVEEVESKGFEIRERTEGRAV GIKSRSKGWCLGCPRRTENQPAQLQSDL NSDPRAL
6650	14701	A	737	134	387	PRSLSPHRPAPPSVSLGFRTRGKRGNGQ RQGEVSWGTGGPQQLWPHGTPGPTQGR RARGCYLQPGASGFLRPPWECDEV*ERG
6651	14702	A	7370	18	731	KEELYGDFENLQTDVH*GKFGPDSLNE DVQIQEEIDPDEEESAKKKHLDKKRKL KEMFDAEYDEGESTYFDDLKGEMQKRS TGKQHTFRPPRAPRHVQLNHAEFEDQD DEARVQYEGFRPGMYVCVEIENVCEFV *NFDPRYPHLLGGLGNSEGNVEHVQMRL KKHRWYKKILKSQDPFISSVGRRFQTI PLYIYIEDHNGRQRLKYTPQHMHCGAA VFWGKI*LQ*LAYCRD
6652	14703	A	7371	97	373	TYESEYFLLLLFLFRRQSLALLPRLECS VKIIAHS*NVKLLDSSDLPSASRVAGIA GACHQAQLIFIFVEMGSLSSFLSVGL NQLF
6653	14704	A	7372	1	464	LVFFSWCLFVCLFVLKTESHIAQAGVQ* RDLSSLQPPPPGFNRFSCLLLSSWDYRR A/PTMPN*FYCWPAGLKLLTSGDPPASAS PSVGITGVSHCAQPRIVSFTSNILKFKN LSKGCLIEAYFDKTVKATVLEYLALRNP KPEEHIWGLY
6654	14705	A	7373	181	652	QNRDVHPAASPNSAAQGS*RAKTHSVE GPLSVPGSPAA/PARSL*EQNPVKPHSL P**LSSQLGSPLEDVGNLTLRHKPQSP PSRGRPRPEGTRLHFTEPQRLRSSRQPTI TAHVVLPMPLPTPPAAHACPLPTHAR GTSSKQAEPPPSACS

6655	14706	A	7374	56	480	TRPTEHLKLSSAVSPGFCRWPPSAPKAEL SPA VPRS PAAGAATIAVVRSRWSPGEP CPLQTTASVRCAPMHRPVDGACSPPVV *ACRAAARLGPREGPPWDQSPQSRAEQ KMLPVFGRASDAFFIDKKGFFCLISCCG
6656	14707	A	7375	265	2253	LSILSHCKRGVGCWLFVALGWDHEQP CAPSTHGRAQPE/GPRVLPGRSRP/GTQ TLAAPQPEPGECTSQARSGGPVSPHKAG SEAQES*EGSEDPQD*ELQQERTAKNILG KRLPQ*IILYCHSHLGEQPOT*NPGERRV *PPEFGLGCG*D/STLLAEEGSGWRGP/P WPAGASTPLEAQAPV*AGGCGPPAELPP QPGGAGHPGRPGGSLGHQAGG*GQ** PHPSGPA*PSA*GPRSRP/PSGGRSQPAVS GPGWAWHCPASGPPGTSSFEPQLWLWP LPGLPGQQRPPRLSAARGPQAHGPPRGP FSSPGDRHGPAGGPAVHPARHQR*PAVP AGVTQPGAVQLLLPPHRAGPLQGPGLGS LAWASCEGPPSLLLALPRASWLQTENW CQWLPPPSQVVSCLGNRQ*RPDFAQGIP LRGAPLGPRLPWRGLARAPAPGPWGAP SQQLPWGRHPSGHLASACPLP/GGSVS GPPSGGPAGSPPTGPS/GAPGSAG*GPGM AQGGPQEL*GQGPKAGEADSPSPWPCL QGPPLWAPLPRALDAPPAWVYPPRPP ASAGGSPCAAPRSPPAASAPGASGF/SA APACSLITLKQDGGGPSISGPASFLQLAW PPGFHPARLHGPSAREARAGSPGPGAGF SAGRGGFPFWSLSSAGCPVSPA
6657	14708	A	7376	58	412	RPAGCGSTRGTCEWARPSAAPCQTAAG GACSPWTPAPRSPAGRSWASSWPG*C WAPPSGHGAQPPSPSGQWWVMRWAP AS/WLPSGATPGPRFLALGTIGVPAGPRS PSPSFPTQRF
6658	14709	A	7377	1	1548	DKDNSGPTVLHLTARFGHPKVNNWLLH HGGGDPTAATDMGALPIHYAAAKGDFP SLRLLVRHYPEGVNAQTNGATPLYLAC QEGHLEVTQYLVQECGADPHARAHDG MTPHAAAQMGHSPVIVWLVSCTDVSL SEQDKDGATATHFAASRGHSHKVLWLL LHGGEISADLWGGTALYDAEENGEC CQILVVNGAELEVRDRDGYAADLSDF NGHSHCTHCLRTVENLSMEHCVLSDPS VELEAKQPDSGMSSPNTTVSVQPLNFDL SSPTSTLSNYDSCSSSHSIKQHPPRGLS /KH*SCRHTELHGHAEPAGPALGHDWE AHTPTTPTQLPPATPAPRHPTAPTPT*LPI SQASCGTTGS*HLHADQEQTPPRGDRGP QEGAE/PPATATTGYGGRTPAASPALSAS SPARGTTTGSWAAAPARRWSHARAWRT ARRRNSLGTTCLEAPRTPRRPGSSSCRR RRRRRPCPRPRVRRRRSRLCPSRALALA AGSAAPPRPPAAPSLST
6659	14710	A	7378	2601	4758	
6660	14711	A	7379	1	741	
6661	14712	A	738	33	509	VSVSVGLRPPWELQVWVLCVPRGQAKT RLEPAGRAPEAPLPAVS LAGGSDSDSRF RQSLSSAAAPGADSLGARTELVEPGPS RPRPRPRRPSWTTASTADASRRRAAGAR GRGNESAGSGAEVRSEQVKRESIGNR* KRKNKTHSKRKKTLQKQK
6662	14713	A	7380	3	5650	
6663	14714	A	7381	1	1131	
6664	14715	A	7382	421	582	LPGAQGMPRPGVQ*PSGLHIPQGGSTRTS GLKAMRSPKNHQVPDSRAGPWAYC

6665	14716	A	7383	3795	5290	WNWTVHGDGSAGQGPWLHLFCHKRQH GGISWPLVQREGRDEHFRNQREIAPPAG REQTAVQKQREMFCNSTGRLPGQPTTE IQV*RV*RPHKIYAEERQFKEEKLAEQL KQAEELRQYKVLVHSQERELTQLREKLR EGRDASRSLNQHLLQALLTPDKPDKSQGQ DLQEQLAEGCRLAQQLFQKLSPENDEDE DEDVQVEEAKEVLESSAPREVQKAESK VPEDSLEECITCSNSHSPCDSNQPHKNI NITFEEDKVNSTLVVDRESSHDECQDAV NILPVPGPSTSSATNVSMVVSAGPLSSEKA EMNILEINEKLHPQLAEKKQFRNLKEK CFVTQLACFLANQONKYEECKDLIKS MLRNERQFKEEKLAEQLKQAEELRMGS GKYLNEHFVFTENDEDEDEDVQVEEAE KVLESSAPREVQKAESKVPEDSLEECAI TCSNSHGPCDSNQPHKNITFEEDKVNS ALVVDRESSHDECQDAVNILP
6666	14717	A	7384	125	605	EAEALENQSQPCDTG/PQSAFSPPGSTQH PRSQLSQCKQRYQDLQEKLLSEATVFA QANELEK*RVILSEPLLKQDSKQVQVDL QDLGHETCGQSKNEAEQEETWPPAPYL VPRAPSCRPEQSRRGRRYPERSQRRPR GRPPPPCPRIKVKDGKNKTQG
6667	14718	A	7385	310	327	TVKLL*HVGNISLFPSP*MLNTQWGK KSFNEWWWENWISTCRRIKLDPYLLPYI KTN*KSIKDLNCKTTK
6668	14719	A	7386	310	327	TVKLL*HVGNISLFPSP*MLNTQWGK KSFNEWWWENWISTCRRIKLDPYLLPYI KTN*KSIKDLNCKTTK
6669	14720	A	7387	3	642	GKGLFDDEDEESDLFMEAPQDRQAGAS VKEESSSSKPGKKIPAGAVSVFLGDTDFV GAASVPSLKEPQKPEQTPRKSPYGPPT GLFFFSAPHKPSKTRKVQSTADIFGDEE GDLFKEKAVASPEATVSQTDENKARAE KKVTLSSYKLNKPSSETK/TQKGLFSDEE DSEDLFSSQSASNLKGASLLPGKLPTSVS WFDDEDEEDNLLGVQ
6670	14721	A	7388	1	3096	MVTHQQPAARKPNMTSKKPKPMGPKA HGIFSGTRKNNLEIYMDQTRTGIATKLS KNNKSGGMTLPDFKLYYKAIVAKIACG GSMYNSDTDEDEETEPSSSGQHIENSIT MNKMKLLKAKMKNMNLSKKHITQVSD EEEDDDGCDLFADSEKEEKDIEDIEENTR PKRSRPTSFADELAARIKGDVGRVDEE PTTVSYEDDRRGKNQDAYTEGGLSTIKT VNCSSSLPSGEAKLRKTL/KEKKERRTPS DDE
6671	14722	A	7389	1	238	
6672	14723	A	739	2	349	PASSIQGGRRACLEVWSCSIWNPTAT GGLDRGVSVRHSREGGGEAPVRVQGPGE MIPAVPKSSWTLHKMQLPGHVCSTLGR RGDEKGEAGPEAHAYDPSTLGGRGQRIT *GQEFK

6673	14724	A	7390	1	1374	DDIFATEAIKPSQKTREKEKTLESNLFDD NIDIFADLTVPKPEKSKKKVEAKSIFDDD MDDIFSTGIQAKTTKPKSRSAQAAPEPRF EHKVSNIFFDDPLNAFGGQLRSPSRCCQA DCCPPDSGLVWVGALVGLGGARAAQHI TQVSDEEEDDDGCDLFADESEKEEKDIEDI EENTRPKRSRPTSFADELAARIKGDVAVG RVDEEPTTVSYEDDRRGKNQDAYTEGG LSTIKTVNCSSSLPSGEAKLRKTL/KEKK ERRTPSDDEEDNLFAPPKLTDEDFSPFGS GGGLFSGGKGLFDDDEEESDLFTEAPQD RQAGASVKEGKGLGSCSVSVCVPKLSF SLGDGTLRRHGCAASVPSLKEPQKPEQP TPRKSPYGPPTGLFDDDDGDDDDNDFFS TPHSPKSTGKVQSTADIFGDEEGDLFKE KAVASPEATVSQTDENKARAEEKVTL YSQNVKP
6674	14725	A	7391	1	417	MDSSRSVGNNGFTYQDKLSSSKLTSVLEA VAGEYALVINGHSL/ARHRY*LGQYLSS EHFCPGLLYLVLSIPDFREDWSQRLGG AETPRCLLERLALSFGSVLQAHAALEADM ELEFLETACACKAVICCRVTPLQKAQV
6675	14726	A	7392	3	700	LVKSYLAQFAARAISELVSISELAQPLER GTHFPLFLCLQQLAKLQDREWLTFLFQ QSKVNMQKMLPGKRKLTCLFCFFNIISR DFRYLEWYVGGTV*LSCSDNDKHYHRS HL*REIYNLTTFI*SRC*VFFICWVGSLLC YKDLKYLGDHICEALLSGQDHLVK*TIR* CRWLCLESDQNKDRMLEILEGKGLSFL FPTPQLEKDLFEQIKLDPSPQTIYKWKD NI
6676	14727	A	7393	83	3064	GRPRLPPPSLPLFFVFRSPFSLPYPRRP DPEEAAA VAAAEFLGEGISFLLSPPLTPS INIILLKILRCQAAKVESAJAEGGASRFSA SSGGGGSRGAPQHYPKTAGNSEFLGKTP GQNAQKWIPARSTRRDDNSAANNANE KERHDAIFRKVRGILNKLTPEKFDKLCLE LLNVGVESKLILKVILLIVDKALEEPKY SSLYAQLCLRLAEDAPNFDGPAAEGQPG QKQSTTFRRLIPKLQDEFENRTR
6677	14728	A	7394	259	1157	EARWQDVGRQLTKTV*PWGRGWSRA SDPRLHAYFSYTAATGKAEPRAARTAPC KARERLGSCLWD*SPPPPGWRPLRYPT PRRAGPAQFGKKRSASARSTWP*/VMQ RLAPKKTRKEQSANDHPIGGPEGRLFTS QLQLKFRALSERISWLEVSRAVTPTSAA VTSTPSTSKPRQKRPTNSQSRSAAKPTPG RRCQPGGRCPTCTRSP*LR*ARGRRHGE ARRLPLREARRLPLREARRLPLRAPRSFR KVPSPGQGRSAPQAGVGAGTGRRRRSM DAWGRARSLAGSAGGVISLGR
6678	14729	A	7395	3	432	HIKRVKKNHMIISVGTEKAFDKIQHSFIIF FKFRKK*EWGHFFNLKSFS*KVRANITL SGDAFSLILVIRQGCLLLPLLFDKVLKVL DSAVKQEKEIRDI*VGKEIKLSLFEDDM IVYIGNNK*/SYRKLPEFINEFSKVAG
6679	14730	A	7396	3	504	AASTGGGWVSEFESVAPGSPDTTAAPTC PQRTPRSLE/LPHFQS*TGPCLNPISEPV EPGQNRGKPRPHYPGPNGWPGPA/GGC WSKPGSTPALSDDQANTQVDRN/DLQV ASEGEGA*PAELFPKKMKRLGLDGPFG EGKNGLSTEDKNLIPQAWVPALCGYHV L
6680	14731	A	7397	376	419	VRKYSLCFYIL*NLQNIKAEGILPNSFNE ARITLILKQTRHSEKPKYRPISEMDRHA EILNKISAN*IR*RMKRIHHGQVRFS*/G/ MWGWFNIRKQINV/IHHTHSLKKKNHMI ISINAEKEFDKIRKLPKLNRNIYKQNI*LT VMVRNS

6681	14732	A	7398	205	1463	VYKKVEASRNEKGWVCGTHAGAFDEG EGPEEAFLGAETAAGAP/GARDHPPFN HGYAGLLEGPDQVGSFSPGRRQA*VC G*RAPQSDCPGGSGRSMGEAGMPPR/Q GPGGLQPPQEGSVFAVMYSIGGQGA VR RIPVRPQPGREGVGQGSLLQPMKPDGEA ASIPTAGSRGRCGPAGRGRRALVGRSL RP*PPC*PSPR*SPPSSGASSPGHPRPAL AHNG*SGWATRGs**DTAPS*HLLVPKQ LAGTCLLCRCPKST**AKLEEIVPGSFHSP RGSYSRGLGAQHQLPSPASVAHPRCQPA PSAASHG*RRPRACLSLHGQLGMIW*S *APSGVQAQGHTHPPGPDISAERAPAGS* LSQLQGP*DSGGLGSGGCAVPPVAAGH PGSLAWQLPPPR*SPAPGSGSPAGRP
6682	14733	A	7399	2	680	
6683	14734	A	74	743	1233	ECGVFSFPFLRQCLVLSQAGVRWPH LGSLLQPDSPGSSRPSHLTLLSSWDLTGT CPPCLANFRIFVETGF/TCFRLVLNS*G SSDPPTPQSVGDCRAGSHHTLAVFSFCF EMGPCSITRAGVAR*HDHSSLQ*NPGLK RSPCLSLPSSGDYWSMPPCLA
6684	14735	A	740	15	239	
6685	14736	A	7400	658	1657	PGILSLRNALLTGVDCKVVVPVPPGH PQLRLHFHFKTCSGWGEWGDHGVVW AGPAPAIYHLHRDVQALWTNDHALAW P*AMTSERTLWPGHEL SARPGRSWRISC PTGLPQGGDDRTRGHWVTATCCSADGL RLCRYGDVVRGGLPTVAWP*LTGSCSL RYGSGQCCYTADGTQLLTADSSGGSTP DRGHDWGAPPFRTPPRVPSMSHWLYDV LSFYCCCLWAAPDPGKDRAGLGCTPT*P STLTLASAFGDPHFVTFDGTNFTFNGRG EYVGMG*NQGGRLPSGSRAPTTAGTE TRGTGLTAVAVQEGNSDVVEVRLANRT GPER
6686	14737	A	7401	1	422	RPKPKNSF*LGGEKANKIPHPLMIKTLTK LGIEKTYVNIKVIPIRPMACHINGTKVK AFPVRFERQRCSPSPLLFNIGLKVPARAIE KEKEMKI*IGKKEIKLCLSGNDMTLYL KQPKNSPKTIRTDTFKVAAGYKN
6687	14738	A	7402	247	660	NWSGRRLRMWPSAALSPAVSSPALALTS PPKPLVKGRDGKPPAGRPREGPGAW R*GPSPTTLGPAKAGSGQRRGRCQP*GP GWRPAASQPLSGCPWCPGITELLSPSE TAEQDRGPGSGEDS*TPDFYTPTRP
6688	14739	A	7403	229	1047	HSVQKAKADKTGVDGGSECGPPLLSLL QSHPRP*P*PLPQKPPEREVWPKDGKLL ASRAGGLVCISLL*EPRVHSTCGPLPVK AELGLLRAQGLPHPASPARLGNTG/VGL ATE*TGISEHKLGPLGN*GVMGDAVR*G LCSEGLCPPSRPWGPMGVCGGLAAKAR PH*QG*VCAPGTHLEGSSVWSPSPQLFP TPGPPAVCSALAPATPARTDGTIQNHL WPVTRKSALPVQEWGGDSWGTGQAQE EGPSVGYPGCP*LPGEGRIPPL
6689	14740	A	7404	595	626	CPMPLVPPDISLINEQTEKEAGDLVCPs/A GPVPDSFPLGSEPSHGVSELKTRAKRQR ERHKKGGTEKDRKAERGT/PPGPLLPLF VH*SG*COVAQGALDIISWLKIIVKSVFP GCPLKSAAAAATPCSPCHPSSHCSVGV PGRASKFCACPLECP*SPPSPLSLQGPHL CPPPFHASPPDGNPGGQGVPLCLRGSPG HLCAMSRCLRWNP

6690	14741	A	7405	1	603	EMESRSVT*AGVQ*QDLSSLQ/PLPLHPG FKQFSLPPVSPSKLGITRHTAYLNFFVFL VGDGDFAMLARLVSNSSSQ/CDPPSSAS QSVGITGVSHCACLTCSLCCQTMCFLLVA SRYF*FWDGNLFCYNLQIGDVYFIFIYLF WMRPSYSITQARMQWCDLGLSPSPPPRF K*FSCSLSPSSWDYTQHAPPCLANFFVFL AEM
6691	14742	A	7406	211	387	PNLG*LNPPPPGLKNFSCGLP/SKWE*K GQCLPPGPVNFGLTKLGVFPCGPGWLE IYN
6692	14743	A	7407	3	326	LSGVMLSPGFPGYLFT*CIMDNKATH RYCVYISS*IFLQK/HHDYLEVRRGSSE TSTGIGRLNGPQIPCFLLSTHETSLYFHS DYSQNKQGFHIEYQGERSNKK
6693	14744	A	7408	1	553	SDPRTEESHKMLTD*RSSYLSLTALFP/P LPKSEAITRNRASRAASLVRLTPSKKDV GFLQKPRLRSCSPSSRCPPGSAARST*AA GTACGCCGTSPRQR*APGALGLRRPPQS *GRRSSPRSLTHPSSALPPPPTSPRTR YRG*SRAAPLLSLRLPSGKLFQPTCRPV SLR*RPSQORVE
6694	14745	A	7409	3	377	KLSPSKPILASTLMGPIYHSHKVKF/PGMK GQFNQKSIIMTYHINITKNKNDMVISSS SSSSSSSSSSSSSSSSSSPIEGNYFPITKE/Y EKSIANIILDS*KLKAFS/LRSGKRQGYLL SLLLFN
6695	14746	A	741	2	311	FQDGTGSRAPML*CSGVIMAHSIKSLQ TPGLMGSFNLSLPSRWYRHHPPYLANF LIFFIEMGSCYITQGSHPFTLNLGLSLSSLA NKIQGNIGSDLVEDTG
6696	14747	A	7410	1	409	NKVFHNNKRSIHQENKTILNVHVPNNKD PK*LK/QLTKLTEDTDSSIIIVKDFNNPLS/ TL/DRISTQNIS*DLENLKNMTMNQLDQINI YRT/LMPSNTKIEHMMGHKISFIKFQRIKI IQNTFSENGVTKSNNRYLENPKL
6697	14748	A	7411	3	414	KGQDLYGEV*KVLLKVIKQVLNKKWD MSCSNN*HTNFISN*NCIKVFF*LDEI/CSF V**NKC*RIAKEVLSSSQ*CLGGHL/TSPH IRRSYNTTFSQSIWCCYRTKQID*WTRTQ NPEKDLRI*GDLIYDLRCCSSRA
6698	14749	A	7412	3	333	LIKEGQIQKLSAKNGTPQDRHLFLFNMI LYCVPKLRLMGQKFSVREKMDISGLQV QDIVKPNTAHTFIITGRKRSLAELQTRSSR ATIEKHKQNSETFKAFGGRLLARD
6699	14750	A	7413	3	391	EEDIVNPANDLIKEGQIQKRSKNGTPQD RHLFLFNMIYCGPKLRLMGQKFSVRE NMDISRLQGQDIVKPNTVHTFIITGTKRS LELQTRTEEEKD/WIQIIPATIGKHQNA GETFKAFGGPLNQGW

6700	14751	A	7414	3	1811	RYIDVLGRRYTAPGLG*LWRHPAQSAVP TAHCGDPVSLAAAGDGSPDIGPTGELSG SLKIPNRDSGIDSPSSSVAGENFPCEEGL AGPSPTVLGAHAEMALDSQVPKVTPEE ADSDVGEEPDSENTPQKADKDAGLAQH SGPQKLLHIAQGFAPAEETYVVKRLHL DQVFCTRG*RMRGIPPERSSWGHNLSNI FLPFQASHGQFLPELKTRITEEWDNTP RLGDILQKLAPFLKMYGEYVKNFDRAV GLVSTWTQRSPLFKDVVHSIQKQEVCGN LTLOHHMLEPVQQRVPYELLLKDYLRKL PQDAPDRKDAERSLELISTAANHSNAAIR KVEKMHKLLLEVYEQLGGEEDIVNPAHE LIKEGQIQKLSAKNGTPQDRHLFLFNSMI LYCVPKLRLMGQKFSVREKMDISGLQV QDIVKPNTAHTFITGRKRSLELQTRTEEE KKEWIIQATIEKHKQNSSETFKAFGGAF SQDEDPSPDMPITSTSPVEPVVTEGSS GAAGLEPRKLSSKTRRDKEKQSCKSCGE TFNSITKRRHHCKLCGAVSPGRGGQGE ATLSSALTEQLSPHQHTSHAHQPCTEG LPDPGSI
6701	14752	A	7415	189	392	KQKWEKKQLKKSPPGAAAHTCNPSTL GG*GGRITRSGNRDYPGAQHSETPSLT*N GKNLGRGMVGG
6702	14753	A	7416	2	325	SHAGCLIRFWRKSMTPHSLPLTPTFLGT CEASFLEPRASVPPQCSMALRRYRLDM GQSFWGGLPSSHPPDPSRPGFV/PGVGHV PGQEGPGGKPADSS*H*DPTGG
6703	14754	A	7417	9	1430	NDNASFGEVYYHPYPPVGSQCHDESGA GFPPGSPCPGTWPTPALKPREGSGGWL LGQASPVTTPACPAF*VPCCTGEGQG WLGAPGKDASH/GA*KM*GVKGRLCVG APEGAG/PSQGI*SFFTEP**AHPQNGLYE DEHKNSRWGHPHPP*QWNWDRTS*CNI PSRP*VHPWVRCALEPAGPGPHRTRT PSQVGVLFLQKRIKQACEPYALFTPLSP HSS/PASARPGSPD*MCRAPEDSCPEMA LLPGMGPPGSGERCSRAPSGAQVTGGV PGPFTWGSGESRCFRAPSPGASGEEAKC SRSPFTGSGESRCGAPSPGAQVRAGV PRPITWGSGESRCRPPSPGAQVRTGV GPFTWGSGESRCGPLHLRPGSYVPFLA PERKGPQQRSEKGHKRGGSQAAPKPS R/PQESPSPLTPSGGPGS\GRNGA*GVSEG *SAPGSGGEEDVFGC*GPPALGPEG
6704	14755	A	7418	1	389	HLTFCHHHYDDRVRGLYKQKECPGIPR VYRIRHIGEGRLHYVLQFKDHPGIHQPLE PQVKYVGNMHSNKAFFGR*LMLQLSEFL CEEIRNKNQRIVQLIQDTRIHLPSMNPDC YQGGVAKGPNKPWLC
6705	14756	A	7419	31	392	KHNRASTPPS*KKSSSPVTTKGRYTKTP HTDVPQG*QPPYKQRGSTSSSPFSFISY SIVLSSSRPPHPGPTSPRLHPSRSHLSEV PPLTQVPPLQGPVPHDPDTPSWLYLSPSS YLY
6706	14757	C	742	398	574	
6707	14758	A	7420	2	704	TDSKCPFLVHQAHAAAM*KERHFLTANG SCIKFHQDINRLSSVFLP*ELVVRHCRG HQKRVDIAKGNRLADQRAKSAVRRPQ GPKTLEAPLIWEGYIREIKPQYSP/DRDR MGHLSRYTFQPSGWLQSEDCKVRLPASS QWKILKILH*AFHLGKHKTSVHPKIVLRR KSTKNGQIGC*YS*NPLKNNPFNR*LLPH HNQRMGSYSGEDWQIDFTHMPKINGIQ LLEWVHTFI

6708	14759	A	7421	2	705	FSRDEVSPSWPGWSQTPD/LRDT/CLGL PKC*DYRCGPPHLAESKFYFPII*KL YHSM.LCL*ADSKS*KPMSLFLLFLFL FTQN FALVAQAGVQWHGFGSLQPLPPGFKRFS CLSLSSWDYRCLPPRLA*/FFVFLVQMG FTMLVRLVSNS*AQ/CDPHALASQSVGT IGISHCSWPVNIYIITM*IFFSIPSP LLIR HLFFLFFFETESRSVA*AGVQWHNLGS LQPPRL
6709	14760	A	7422	33	775	VMGPAPAGEQLRGATGEPEVMEPALEG TGKEGKKASSRKRTLAEPKAGLLQPVK LSRAELYKEPTNEELNRLRETEILFHS SL LRLQVEELLKEVRLSEKKDRIDAFIRE VNQRVVRVPSVPETELTDQAWLPAGVR VPLPKCPMP*RACFRFLAPKPRITVCEA SYLSGQPSIRPDINVDVALTMPREILQDK DGLNQRYFRKRALYLAHLAHLAQA DPL FGSVCFSYTNCHLKP SLLLRPQ
6710	14761	A	7423	74	576	LCWQPIRWWSPTLRANGHQK*/SGVAILI SDKTNFKATAVERDKEGHYIMLKLGLVQ QENITILNIYAPNTGTLTFIKRLIDLRNEI DSNTIIVGDFSTPLTALDRPPRQKV NKET MDLNYTLEQMDLIDIYRTFHPTTAEYTF YSTAHGTFSKIDHRIGHKISLNTFK
6711	14762	B	7424	158	346	XLSQGEVVVPQIPVKSGGPHGAGV LGLHL EGPFISREKRGAPHAHLRSFEADAFQDL LATQGQX*
6712	14763	A	7425	1	1768	FFVTVFVMYFTTIFKKQTKTNLKSASPTP QNHP/GSSSLAQ/PLSHDPGPLSHNPGLA LWDQPSLPAPPRSSQGGGALCGEWQ/ PGPKAGPGLTSS/GDWGVPSEVGDDQHA SSGF*/P*GWGTFKH*QPASLGTGR CSTS NTSAENLTCLSLPGSPGKTAPLP GPAQA GAGQPLPKGCAAVKAEVGIPAPPP PGG QDPHPSPAFLGSPGACGLRSTPCALPQA LPQARPCPGRWFFPWLPFQTGGAPDHP ISLDPGDISFNWALQQEGKRTSARA/RGA YLLCPRTAP/GKQGGREPPTPELKWRESQ DNHP*RGAAPIPDV*PHCGCPQSQEGSRS PPASKLFQGESRPVFATWVCSRAKGTQK MAG*H*WGEQGTLPVRHTALQHQA GSP QPASTGPGDV*RDRVIEKRKQNA GHPW HSGLGSPGSKNRGPGPSLPGGQSGAPG NCALAQEPGCGF/TRCTPQTQEQKANP*L STLPVTGPLPAGSSPPAHGGFTPWAPAT* LPAPPSH**HFPGVCRSPVP/PSCRQALSP TGAQGP*TTAQPSHPRP*MPSPGGQ PAG WCHM*AQAKPGAKASPAGCTFSQPPPP GRR
6713	14764	A	7426	36	620	QHLKLLNIKNHTGEKS*KCKECDKAFK WLSHFIIKIVHTEENFYKCEQCGKTFNE CSHLIAQESIYT*KKMYKYKDHEKAINIY SHL/NHWRVHT**KEYKCNVCQKIFQ/INI NL*SEEGIFYFEDEHYKCEEGCSTFICITDFI VHILY*KKTLKCCSNFVQHQQIYIEKLC KFNF*KTLFQKVQLRRHQSSY
6714	14765	A	7427	3	276	PKKSTEKLLEVISNNSKFTROKANVQKSI TFLOYSNEQVKFKM*NTLP/YKMKYLG ISVTKHMQDPYEEKYKTLMKDNKEEQN K*RDIPCL
6715	14766	A	7428	125	456	LADWAHRAPASQQRNGADYAVYINTAQ EFDGSDSGARPDEAVSWGKIRVDAQPV K/VKRWLGA*GLWDDCGSHGLPRFPP TQVYAAASLVFPLLEAETFAQKMDAFT HEK



6716	14767	A	7429	1	571	LSGKEVRENGIHRUGNLLVPMENYCKF EDWLMPILOQMVMEQNKRGGFGLKKW TPSKMIARLGKEINNPEVYYWAQKNHI PVFSPALTDGSLGDMIFFHSYKNPGLVL DIVEAERG/ADYAVYINTAQEFDGSDSG ARPDEA/VPPWGKIRVDAQPVKVYANAS LVFPALLVAETFAQKMDAFMHEKNED
6717	14768	A	743	3	862	RNERHAYDKGTWKTRRAIMTVQ*SGET NVDRAYNLLYQTLTDWTSYVTC*ENKEI AAGQRNESHSDWTKYQVWEWLQHL DTNQLDANCIPFQEFDINGEHLCSMSLQE FTRAAGTAGQLLYSNLQHLKWNGGHTG ISKSCKETRHLFPFFYLGPGLTLATCRAV SKRLQPKLQCAVHSFVTPGIPYLDEIGYR ARDLREPQQGVAALLPLSSDGNRRRPG LPKLKAQRRVRFPSNKGRGGPSSPPFHS AFLNWQHKNVWMVKELSSYLGPLQY YPGSFGGAI
6718	14769	A	7430	1	311	RRVSSESRWRSLESRGRSLEIQGRMERPR CQRFRENSCVAPRHCKGPGGKGLQALF* VPVAQLGEPGAQLGDPGAHGEATVPEV QGE/PAALLPGTAKVPGGEGSPGFIPPRHC RGTGEEGSPGFTQGRETSKAQRTGCLL SCRGCLCLSVSGDS
6719	14770	A	7431	250	503	DDEKKSKEIEVWVGSDEEEDNGKDKKK KTNKIKEK/YIDWELNLIKNIWIRNSDDI VTQEEYREFYKSFTSD*EDHLAVKHFSVE
6720	14771	A	7432	3	540	KRRGSFKMAELYQLPDESSAKALVSLK EGSLSNWNEKYSSLQKTPVWKGKNTS SAVEMPFRNSKRSLFSDDDRQINTRSP KRNQVRVAMVPQKFTATMSTPDKKASQK IGFRLRNLLKLS*RH*WGIL/AKWFYSNI DKPLFEGDNDFCVCLKESFPNLKTRKLT RVEWGKIRRLMG
6721	14772	A	7433	3	322	FFLRWTL/DTVTRGGIQWCNLGSPQPP/P PRFKRFSCLSLSSSWDYRRPPPCANFLY F**RRGFTMLARLVLP*PRDPPASASQS AGITGVGHRAWPMPIFENRFDL
6722	14773	A	7434	22	475	PRMISCRPTRPPTRP*SHSAFRRHFLLVHP VKAKYFLSAVMTTHHLASASHFPFAA* SATFPAAPQPMWTSDLPPQSTCLPLGTS PLPSRPLLVPSSCS/SFPDPTQMPPLPSTFP GLPFL*PHSSALSLPLL*LPHGFALSPSSV PFPT
6723	14774	A	7435	14	362	LFYQTFNSVN*KT/RHKMNK*TEDFNNTI EQDLTLTVFISLHSTVEYAILLITHATIFI DHLLS*KTHLSK/CSADGITQIPNYDTIK QEVKNTNMSKNK*KLNNKFSNTLLFKR L
6724	14775	A	7436	1	440	SPFPKKNFYFSLRPLIFLRGVGPKLPPPKK RVFSKNPPEVFKSPPLKKNFSPFPVNL GPPKDLLKG/PPSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSPDREPPPTI*N*PTRP
6725	14776	A	7437	8	487	DEVSLVAQAGVQWHNLGSLQPLPGFK RSSYLSLLSSWDYRCPPLANFIFISRD GGFTMLARLVLS*PQ/CDLPASASQSV VITGVSHCARVAPSF*MSAGVTICVGW ELFGMSPVAEANDHLSGALVPFSALFS HFMPGLLPTMFCPLRGCE
6726	14777	A	7438	1	445	IDCWHKCQDNSMGKDNLFN*SYWDYWI SI*KKRTSNLISPIHKIES/RWIINLVNSK ALFRKQKRTLHDCGLGNSFVEETQKAL TN/WDIILQ/SFCSSKYTTKKLKR*ATD WGKIPTLFAKNNDKICEHTHNKRRYM FGQMHVKWWA

6727	14778	A	7439	131	763	PGISADSRGQQLS*WGPPSHQPPPGPLKG SAPGGLCGLVGPAAKHALRPSFHSGA PSAGNLGCFAAWASSLNSNQSPSSKG HIPKDRGEPRGTVP SLRKATATGRKAER LSDEGRSSVHG*AGIPGHEGNAKENRDR HPWQLPGIASAAVVIASGRGALPPGGQA GPQKLAPPFSSLSVPGGARWG*AEGAPS KQRGKVTGEPGRQC
6728	14779	A	744	15	404	RNFRVDDLVSPPCCGILWFFTQGGQASCW RPLATLPSRQKPGSSPGKAGCWPA/WDL GLVPHGVSGVSIAASSTPQGGAVCSPSV AAPSTLLLRTHLLGAASLQGGCGHQILL HHLIGMDLYVAASPSHRFW
6729	14780	A	7440	47	265	
6730	14781	A	7441	1	330	HHHLAPFSSLPFNIVL/EEVLARPINKEAK *KAP*LERKEVKLPFAEEIQEMIWIYDN SKESTKEVLELINKFIKATRYRFHIQ*LVP LYTCNNLK*KLKLYLSINLTKV
6731	14782	A	7442	3	423	NNALLNNPWVKGAIPKEVRPYLD/TREN KVTA*QNLWDALKK*/CSGKLIALKE*C QINNLSFPLKIKEK*EQIKSPVNIKNVIFK KLKIKKGLKV*KK*RKISETKSWFLEKVI KIY*SQGRHARKKNEKSGITRDSRTRG
6732	14783	A	7443	1	689	YIYIYSYINIQFVFL*EHLLINKFLSFVYQ LMLKH*KKRTTNTLFTLIRTM*AFLFYY QIICISYVIAAVLFCI*IFFP*HLCLLVVLF MYFFNILRFIPLLRSDITSFHYMPLFGRFL SC*SKQEHHLNHCQPGIYFINLLVWKHFFL DVIFTLVYFVVG/FALILYDFLIMSVC*TF YLSLFISR/ACLLFYPHI*LIFIWAYISRLEH SFHTF*GIYTFASEIVFIIF
6733	14784	A	7444	3	545	TMLLFTLQNRCTSSHCMPAPALCPGK LTVGTGSMGPRISPWPSSANA*PVDKP SGQEG*GQCTAAAPCRVAVSLSKVRAP GDGLSCGSSCPPG/RQGRGVPCPAAGER REGREDLKPRE*IGSCIKNKLGISPAK*D* KNSQDKSKKNPIGDRTSLAVGTVPQSTR PRVPLGYHYCY
6734	14785	A	7445	243	768	NLPNK*QDEGRGGGAEPWPWP/SLPPR DVEAPSPRLGAPAWPPAGRWPPREG AWLG*VLCFRKRSPVPLGVAGA*ASVG GGCVGRCP LSGAWPPPGVGDKPSPYCSE RPAASFP/PRTCVPFNAEGGERAPRDSR GEGSLPCCRGEERGQGLKTRINRFVY QEQRDFTS
6735	14786	A	7446	596	1335	LEQITFSVATAMDSRFPDFQDLLEPERA CHDAAGTLEVDFFLNFGTVDLGRKE TTTEQALPPALLGIRRPFLSRPSVQTED APSKVNYVLCLLIAECSPGSDYLPCAIP SAYR/RWYLDPCPR*FLPPYY*RRHPFQW TTVTQEAFFSHHDVAFTSTPVLFPYDPAQ PFIVKSESSQIAKAALSQQRPSLIYERL HFFS*SLQRHTIDLQGF*ILMLSEERQH LFESSIGPHPTISKD
6736	14787	A	7447	199	450	ERSFSKKMP*NPPGGGEPP*PTLGIPSSPP PHLLGPKFLEKIFGLPGLPGGKIFP/P/GFA FGPNLGSggeIPGGINPRSLPGER
6737	14788	A	7448	154	695	GLLSNLLISIFFIPPKKSAPKYQHMKHSQS FHFYCFNTHFNFLNKF/FNELQ/K*HEL KLE*SKII LYNQNKPSV TYREIMQLRAQL KKIIDSVKHKRTWQGLKQGV/YWGFYV NVIGKSFFYFWDKYFIFIDWAKNTLRIN MGPERPTVFLPNFIYSQSTKLALNWVINI MGQFIPSYSVSA
6738	14789	A	7449	203	443	FFVKGPKNTHW/RKDSIVNKWC*KN*IST CRRMRDLTCLSLYTKIK*KLRIPIESGTE PR
6739	14790	A	745	1001	1459	

6740	14791	A	7450	8	312	QTLALSPGLGVQWRDLGSPQALPPGFMP FLLP*ASQISRDYRRPAN/LMPGPNFFIFQ AETGFSTVLPAGWCADLPDLVIHSASASP SAGITGVSHRCPARTF
6741	14792	A	7451	1	2554	MKVWLLLGLLLVHEALEDVTGQHLPKN KRPKEPGENRIKPTNKKVKPKIPKMKDR DSANSAPKTQSIMMQVLDKGRFQKPAA TSLLAGQTVELRCKGSRIGWSYPAYLD TFKDSRLSLYNSRGLLREGQAGPMGSQP KVNPTMARVPQVEPPVGETWESSTLLA DGAVDKRSSFALCSSFISTWKLATLNDP VHLLSLVCTWTLRTAGRSRTARHVAVA ASRCGHLTFAWQNQYISLERLSVYMCRF VTWVNCMSRFGFVDYFIQVLKLIQVLP PDSVHPRSHKHLLSLRSEIAKTTSYCPKH SSLSIPLPRNQMRSGVSVTLEQRSESTSSP FPVTALLFVNLTSLWLGKGPILPKYVAVS VQLSRAGACFSDVTHREVLMSFCYMVV GGDFLLGGSLVCQVWFVFWVSRGYTLI FSESREYLKEEEELFLCKGPGYAGQRVK KNDDPSSVKQNERYGQTLVNSTADT GEFSCWVQLCSGYICRKDEAKTGSTYIFF TESGGRISVLVNLVLTAEQELLAHEPFDD VSRNSAPNLKHHLTVTQRRQVGKKAKK NYLFQEHCGENTRKHVIRIGVSLALKISL CKYCNIPSONDPEKQRIQCTMPKKKSHQ HQQKYPQKPSPEFLACPKDRIEKGELFVP SPSYFDVVYLNPDRAVVP/PGDRAVG QSHAPQGIPSGQDPSQWNGHCL*HEAGL CVSATSFRAPGCGLLQGGGRGQISDLRQ VPAALRGGPNSSKPAFCSSCHMQAPW* V/LAALSRRPQFPPLPSPPLSLLGHQVTG IPSGPPSTTILASSNKVKSGDDISVLCTVL GEPDVEVEFTWIFPGQKPPSRVTGLWAG TWWCLYRVL
6742	14793	B	7452	1	2586	MKVWLLLGLLLVHEALEDVTGQHLPKN KRPKEPGENRIKPTNKKVKPKIPKMKDR DSANSAPKTQSIMMQVLDKGFQKPAA TSLLAGQTVELRCKGSRIGWSYPAYLD TFKDSRLSLYNSRGLLREGQAGPMGSQP KVNPTMARVPQVEPPVGETWESSTLLA DGAVDKRSSFALCSSFISTWKLATLNDP VHLLSLVCTWTLRTAGRSRTARHVAVA ASRCGHLTFAWQNQYISLERLSVYMCRF VTWVNCMSRFGFVDYFIQVLKLIQVLP PDSVHPRSHKHLLSLRSEIAKTTSYCPKH SSLSIPLPRNQMRSGVSVTLEQRSESTSSP FPVTALLFVNLTSLWLGKESREYLKEEEE LFLCKGPGYAGQRVKKNDDPSSVKQNE RYGQTLVNSTADTGEFSCWVQLCSG YICRKDEAKTGSTYIFFTESGGRISVLVN LVLTAEQELLAHEPFDDVSRNFAPNLKHH LTVTQRRQVGKKAKKNYLFQEHCGENT RKHVIRIGVSLALKISLCKYCNIPSONDPE KQRIQCTMPKKKSHQHQQKYPQKPSPEF LACPKDRIEKGELFVPSYFDVVYLNPD RQAVVPCRVTVLSAKVTLHREFFAKEIP ANGTDIVYDMKRGFVYLQPHSEHQGVV YCRAEAGGRSQISVKYQLLYVAGWMFS FLVMTLTENPSSPFQPNPSIVHSGAASVL DQSQQFIQACFLFLSHAGSMVSAAL SRRPQFPPLPSPPLSLLGHQVRGIPSGPP STTILASSNKVKSGDDISVLCTVLGEPDV EVEFTWIFPGQKDERPVTIQDTWRLIHRG LGHTTRISQSVITVEDFETIDAGYYICTAQ NLQGQTTVATTVEFS*
6743	14794	B	7453	520	600	MIDCVFGAELAESLSFILGILGFTLL*

6744	14795	A	7454	78	624	TNKSQGSQGLCVAGPRACQSSPVQQR NVPPLSILSAPFSGS*GL*PCGGVLGATG GAELMGLLRWCPPGVCTVSLGQQVGS LSLESEPPASSLNNRGLLREGQAASVGG QPKVTSPTMARVL*VEPPVCETWGPHP WQMGPLPRG/VWAGPPQTPCGVTQLA ANGKQPVRRKPGSYP
6745	14796	A	7455	3	369	ISQPPKNLGPPEKTYKRPPSSSSSKKEFPF FFPGESKGGVLSRKGSSSRVKPFSAPT PKKGGPRSSSRGGKSSSRNFKKKGGFP G*PRRFFFGPGKPPRPPKAG/H/YRGK PPGPGPK
6746	14797	A	7456	2	648	QTLPFKGRLPQEDGLGIRRPSCRPALPWL CQGAACPLPASLQVVPGHQMDPIQLVP PFLSPARLLEL*EGRQKGRWGRPSQAG GQEKQLSSSSASPTAERARPPRAGTYG* CLALP*VTGGVGPMASTLPVITGMGQD SRGNR*EGPGVR*/DWGCSPRER*EGGTG VALEERGLLQRQREKTSVGVSSEPGFVF QRPALPGPWVCPRLHKRLA
6747	14798	C	7457	89	376	
6748	14799	A	7458	3	864	MNFSPLFPSNFGDFSQNIPTSEQQQPLA QNSSGKTEYMAFPKPFSSSSSIGAEKPRN KKLPEEEVESSRTPWLYEQEVEKEPFIK TGFSVSVEKSTSSNRKNQLDTNGRRRQF DEESLESFSSMPDPVDPPTVTFTKTRKA SAQASLASWKDKTPKSKSKRNSYSSWK SRVKNIRYESASMSSTCEPCKSRNRHSA QTEEPVQAKVFSRKNHEQLEKIKCNRST EISSETGSDFSMFEALRDTIYSEVATLSQ NESRPHFLIELFHQLQLLNTDYLRLRAL
6749	14800	A	7459	2	743	KASQASLASKDKTPKSKSKRNSTQLK SRVKNIRYESASMSSTCEPCKSRNRHSA QTEEPVQAKVFSRKNHEQLEKIKCNRST EISSAHARRILQSNRNACNEAPETGSD SMFEALRDTIYSEVATLISQNESRPHFLM ELAFHELQLLNTDYLRLQALYALQDIVS RHISESHEKGENVKSNSGTWIASNSELT PSESLATDDVFIQEK*KYASQKHLHINV HSIFSHDSLKLKHQEING
6750	14801	A	746	3	357	
6751	14802	A	7460	1	336	IYFPTPEKFGPPKETLKKGAPSSSSSKQKF PFFGPGGKQKGGFGLQLTPPS/RSSPFP QPPQEKGFQGRSSSSG*ICIFKKKGGFPG WAGGVQNPKNPKGFGPPGPLKPWG
6752	14803	A	7461	1	3010	YRIPGGGTWQSARPRVGSRAVDGEA RRGLCSPSSRRWRPGPPQPHCPGRAPA LSCAAAAPARRPRGHAESRRDGGGLGSAE EEESWYDQDLEQDLHLAELGKTLLE RNKELEGLSQMYSTNEEQVQIEIYLT QLDTRLHVNEQHAKVYEQLDLTARDLE LTNHRLVLESKAAQKIHGLTETIERLQA QVEELQAQVEQLRGLEQLRVLREKRERR RTIHTFPCLKELCTSPRCKDAFRLHSSSLE LPA
6753	14804	A	7462	2	190	SSNKKKPPKNHPEPDSFKTEFYQTF/INT P*IPILKLFQKTELQEILPNSFCEVSITNSS TRR
6754	14805	A	7464	359	1095	PKGNGNLWCGASLLNARMRAGNKSPP LRLPPGATKSLPQALQFQPLLAEPDSA AGLGTGGTPRLTEVGGAL/S**RSGSGFP ENQKGPPDPASGYLDLMHTPPFSQDPIS PASHMPIPSWSTLFSVEDRRSRQKTTGR WGSRCGLPHTCSILVGGVTREGVEMLP MGTCGKCAPFAPHLAASSNSVLTAGDP APGAGRLGSAAQEAALGQGGGRRSQAP PRRALQRPHAWVETTSQWRSAG

6755	14806	A	7465	16	405	VGAIQRAPPAPPSCARCLHTPDIRATLTQ TPGGLTPQOEKDHEHGHGDRAGHS VWVLDPGTCSRRRR/WFSPLYLELLRSS GECRG*SPASPSLSHHTAHVTPKAFIEHL LCARCKEDSGITGQGAF
6756	14807	A	7466	16	255	ARPCPCSWSFSCCGVSPGA/LVTEAAIF YETQPSLWAESESLKPLAKLMTYFKNS TYLIRLFMIYRCKPVKSKKKKRN
6757	14808	B	7467	1	1026	MRARRLPWALTTLVAELGWDTOGGDQT SPGGNDRMSMEAECESTTVSPLSCSIPTG CGQTREEVSARATPPPSLGASLLQTLTPD THCTGVSAITMSMLVVFLLLWPFSSST LAKHKRIHTGEKPYKCEECGKAFSRSST LAKHKRIHTGEKPYKCKECGKAQRSST LTKHKIHTEEKPYKCKECDKAFKRLSTL AKHKIHHAGEKLYKCEECGKAFNRSSNL TIHKFIHTGEKPYKCEECGKAFNWSSSLT KHKRIHTREKPFKCKECGKAFIWSSTLTR HKRIHTGEKPYKCEECGKAFSRSSTLT HKTIHTGEKPYKCKECGKLLSTPQPLLN K*
6758	14809	A	7468	1255	2710	ARPCPCSWSFSCCGVSPGA/LVTEAAIF YETQPSLWAESESLKPLANVTLCQAR LETPDFQLLKNQVAQEPVHLDSPAIAHQ FLLTGDGTQGPLPLPLGLVHRMDPAEQAP WS*QGPALFNSTPPTESLPAPWLSMAP VSWITPGPETTSRCRGVLRGVTFLRRE GDHEFLEVPEAQEDVEATFPVHQPNYS CSYRTDGEALSEPSATVTIEELAAPPP VLASTMESPPRCTLGNKVTLTCVAPLSG SGISSLRGGGERAAGNPGGSTSPDRIFH LNAVALGDGGHYTCRYRLHDNQNGWS GDSAPVELILSDETLPAPEFSPEESGRAL RLRCLAPLEGARFALVREDRGRRVHRF QSPAGTEALFELHNISVADSANYSCVYV DLKPPFGGSAPSERLELHVDGELAGHQR GRARVQCPSGPPVFPLFPWASDGGALGL GSAPIAYPGGEQAIGGRGSGDAWNFLGF PTDASP
6759	14810	A	7469	3	1312	GEAGRGGSTGLGAGQGCATSQGLAARS SWGHRVGHQLGSRGPTRSSAQ*GAAA ADLQAGRHSNPPPT*AA*G*NLPAE E*GGPRAGAPAHASCPTDPSAGEPGTGA GAARRWHQGLCSPSGV*PQASPGSSPR AQTSQPGAAQEHHEPRE*AAQAGERPA GGSEVGAGASGGPAAGTGACGNPGPA AAGSPRGQGSRAATGHTGCGAVQLPR PAPSGRG*KCPAAAAAQETEG*VRPTAA TLRLAGSGARRWCRPSASHHGPPDIPGG DSGGHPGSAPQ*AAAGPGCPQLPQEAG GSEPQA*RATGCLQGPGRCILGPDPEAP GLLPQHPRAGTGAGTAAGPGHDG*RA TF*ATGVRGPAP/EAGTSTKS*G*GSWQV QGTGPKWGLCLQPSPIQGAATRPSPK GRAEQSSASTEPSHPAPRKT
6760	14811	A	747	461	791	ESLQTGLTFKSDMDLLPHIGPCR*DG AVSGAPSSNSFPTSVAGSTRLAKERGDH HLRKQPRWEVHGAVRRRAVHRPFIFLSR KEAACCLFPPPTLLPSRQQTLLPSK

6761	14812	A	7470	1	1987	MWEP CGS QGDT/GVFGCRDR*GG*GAA GCAGRPS PGDRGQWPHACGGGGRGHPS TSTGAPAGHGEEAASEQRLLSGGPLRPP GPH*AH RHVGP GAGRGLC*LGRREPQHR VPSRSAPAAPGRLPALPFLDEKQ*AEPR EAAPRRPRAAGHSPGHVSHCGEAPGGL DHLHL PQ/SPAGMGSEHDGRSGQC*PSR HTSP\PTRLQPSPPDTHPGGSSLPAPRPAL SCWARVFASLGDQPAFLGGHTGPPDAS GEPQH KH*PS/GPLSSSFFGAPIQGRQRNT ESLPGTC*GMEWPTAALG*RGPRPVTAT PGTPGGAPTS\GFP\GCQAQKPEAGLVVA NGTMCCPAKHTWRSGPKIPTLISILPLLL LHGGAVSLGSP PQGSALRPAPASLGPCV TDKSIPSLAQNTKYSPDLP*ET**HLPECS RGWGSPLLVLHPLLGHILVSAHIPLPGYK ACPRPLNLLGRFGA\QGPRGSLSRSSRGG */PGPAPSALGVSGSPSSHPPN/GLYAEAH RMGFLPD SKSKNGLISKCKLTFHPQTSK PPAPISP*SKTSGGRKNRLPGLHSQQSFG RMPPGMP*APSVYLLPLSHPLPLRTAG KPSSLPQPRSPSLVSSHTRAQQLSLV*G QPCVPGHTSTRQGLPPLHLSILPAELPQSSF ANRGIKASLRIRK
6762	14813	A	7471	2	353	DRKEERLRSRSGAAATRSSGKGVAE WDPLPCLDPELWDQFDNLKNHSEKFI SAKERTIEI\SYTKQLRNLLKTCQPKRN WKEKEYIT*NSPSLPVNKMSDHARQH*V ITLGSIKLSSLRS
6763	14814	A	7472	2	390	PLDPQRVKIEDKVNSRSS*KN/LGLEDL GTYSVIVTDAEDISASHTL\TEEELEKLL KLSHEIKNPVIK LISGWNIDILERGEVRL WLEVQKLSPAELHLIFNNKEIFSSPNRK INFDEKGLVEVIIH
6764	14815	A	7473	3	223	DAWVTSTNADKEFEKIQHPLMIKLSK* VYNMSYIYPLFKI\KIYDKSLVNIILNVE KLKAFFLRTGTREER
6765	14816	A	7474	3	1033	CPLPFSL*YSTCGEKQPMQSWRASAASP GQSAPSSSAVGCWKASCKQYVWGTPSY SYTNRFPRRTPHSPGVWKACISRAG*PA RKNSLICGLAGKTGALKDT\SGKAPVFPL CHRHSDPGGGFHC\AELGTGNSPLGRLL KGLP*PAAVPCPPGAPHLPQRRPAGRPT *FPPAQSSPPQSVWSRSRCTRMPGTGPG RWGPAAGSWPATSLASGCP\SEVCGAT NP*APRLSTALGSCCPSPEGKRRPNTPA TRPPCVPAG*APPPGHSRGNGGLEKSSSF PASCGR*QSGAGPSRLDFPSSPSRLHSVP PGPFRFTSHPVQASSVSEKGEKPLRSYD PRR
6766	14817	A	7475	63	389	KNQE QESEETLPNLFYKASITLIPKLDTSS SSSSSFSSSSSSSSP*KPITHRNIPSSSSSSS SSHQIQYIGKIIHHDQVGC\IPEHLIKFNI AA**EPSKNGDRRNT
6767	14818	A	7476	3	335	HASGKDRHTDQRNRIKNPETDT*YSTF* QKC/RLI*WRKDSL\VNKWC*SNWA\SPM KKIKLDLSSSSSSSSSSSSSV*NVKLL GNNVGGNLQYRGLRVHTVDVKAQHI
6768	14819	A	7477	50	378	LEAWAGLSQVQTPSKFLENPSQSYRLTV PLRKHVPRPKQHEIRRLA*VGNLSDFT G*/HPGCIRGLRPG\HLSRLMDLGLGLMV KSMERDQRLVERAQLDQELLQALEK
6769	14820	A	7478	62	389	KRDPRKTFITPPVSGERQIRRGPTCKWG FLGLVGRGGPPEGEKSNLLWNPGPPLG PNIKKGPRLTTPSSSSSNFQREKFHPGGG APP*NPT/ILGRPGGNKLGWGV

6770	14821	A	7479	18	373	RGEPPSPAPIGIFKSPKRGFPKTFPGGF LPKGKKKPGPIPPGFLETKEGGTTPPNPF KK/ARVFLVFKPKAGSSSSSSPNYKPIYL NNTDTKFFNNMLANRI*QCIKEVMQYDR TRG
6771	14822	A	748	40	317	LRVTAQWASHTLPDPVVGPNPGSGWKEK DRDSEWGWRDLKSKTWVEVEAEGGLS GDTFQWLPQGSSQRPGLPLVNQAGVQ ETKGAGPL*SPAPLPPGSPGAQASGCSP VGAIGMYPLTGPLPPPPQPRSWISGPSTPI LSLCPSPTRSQGFPPQGLEVCVTPIELL EVRLKIRECFPSFL
6772	14823	A	7480	2	1288	FFFFFSCYAVNAAGNEGNDTALSFPERS QSRLCGFSQNTLCLLPAPTRSNFPGSCR RQPPGSLPALALAAGDSPGEAGPPGEGS RGIQHTFP*IPRPRRVQGSQSSPSTSHQ QFINGEGQTS**QNLGLRTQEFECNRLIS RL*VVRFRSLFAFFPLFAFHSPSPFF*GN V*ARLQGQKMESLGAEGLHHRPRQGW RKTQKQAPSAYVGKNGNPAP/WFPPKV FRTGAAP*GFNPISPKP*RHSLDLAKG RGPDPARTGTLSCLAFWPSRELITPG CHVLIGLSRLRGALFGG*GTAKRLSHK GRQSGP*N*PGRHTAPLIPSAASGRVRV GLQRNEPLPQNPTLRLSSPLLPGIKVKE TVGI**GVGMR/DLGS*NEVSAFIGN*ESR GSGSSNRMVFLPLPNARESPPSRFETVN
6773	14824	A	7481	3	352	QFSIE*KKRKIFPTQA*DKQRLNVQKYKI LLVTRKEGPNKGKRGKPCS*IRKLNIVKTS IFPKLIDSYNKFNPY/LSASLLELTSCILK LIWE/QNPFMKMQRARTVKTLSSKKNK VEK
6774	14825	A	7482	2	253	SMKKVERSKISILSFHIREN/QLNPK*/R RRREIKIGAEINEIENRK*IEKINETKSYF WKISKPLAKLIKEKTQITNTRNAY
6775	14826	A	7483	2	1114	WSHRDWICPASGFQMLNVGSGVQILRK KLMTYAL*LLQLTVWRDSRLLCREGAP K*SL/SSLPESRRQSSEFEKAKTCQLFNA AVDSPADYHISLAQSALQICLTHPELON EICCQLIKQTRRRQPQNPGPLQGWQLL ALCVGLFLPHHPFLWLLRLHLKRNADSR TEFGKYAIYCQRCVERTQQNGDREARPS RMEILSTLLRNPYHHSPLPFSIPVHFNGI YQVVGFDASTTVEEFLNTLNQDTGMRK PAQSGFALFTDDPSGRDLEHCLQGNKV KPSPFQEPSPTNSKEATLYKSKLCKKFN SGVFQNFNQSNLHDKKKKMQDFVKPIEF LIHNLIIYTFHIKERKGVSNNGNDTSLIRII RVDM
6776	14827	A	7484	4	252	GDVEY*SIYSLAPIRHWLRNGPRASTLW LFFFFFFF/ETQSCSVTRLDCNGMISAH CHLRLPGSSDCPAS
6777	14828	A	7485	95	670	FLEGGWAHFFPPPKGSPKIPKEGFKTP PKRKKIFPSHPPLNLGPPRDLKGPP/HSS SSSSPEVINIYCSPFREGHGRR*SKVSSW STEVENKPV*DKFPHTPSY/ATPCPLPQGY RTAVFSYSPPK/HMQSLPTFQKACSPYS FSHHSQSPTLVAPFFPCLMRSSDKLM NDVPAPVFLPSFKGNHACSSR
6778	14829	A	7486	2	338	ENGWCWIAITYGRKTGFLSLTCKS*LK RDLDLGTETMEILEENLGEVLLDIGLK/ NFMKTPKADSTEIKINR*DLIKLS*CTA KKS*T*/SNRQSTEWKKIFGNYASDRTS
6779	14830	A	7487	117	334	LYAHKFNNLDEMDQFLQRHNTPKLIQEE /HRLTVIK*IKSIVINLPKQKA*GPDGFSGE MYQLLKEEIIYNVF

6780	14831	A	7488	325	353	CILKDRCR*LYAHKFNNLDEMDQFLQRH NTPKLIQEETDLL/SIK*IKSIVINLPKQKA *GPDGFGSGEMYQLLKEEIIYNVF*RTDVE G
6781	14832	A	7489	3	458	KSREITTLANNQCMATESVDHELGRCTN SVVVKYELMRPSNKAPLLVLCEHRGRM VKHQCCPGCGYFCTAGNFMECQPESSIS HRFHKDCASQFNNASYCPHCGE/ESSK AKEVTISLKQTPPRPWTPVPGQE*GSSLV GRADTTPGSGAR
6782	14833	A	749	2	333	QKRGKTLPDF*SDFG*QLNGRHTHFQ/HP VVGNGPGSGWKEKETKGAGPLCYPPSHS KVWGRGATSSVSEGGSQRAGHLP/TSPA AQGLECRNTRLPKVRAVAVRLCYPPL GG
6783	14834	A	7490	49	457	MHNPDGSASPTADPGSELQTLGQAARRP PPP/PRGTRRPPQDTPISPETPAGCFRRPM PTREPPKTRGSRGHLHTHPPGPGPPLQGL APRGLKT/RRPPSVPAAGTPQGGKDQED CV*G*VALPGPPGRQEAYWSHP
6784	14835	A	7491	1	816	MDEAQPQEALGASDWQTCSTRTQCLQRC KARSQSDHFKGELGVSSPRVHPQAARRP PPP/PRGTRRPP/PGPAHQGNP*AASPGG RCPPGSPQRLAAP/EGHLHTHPPGPGPP/P PAGTPQGGKDQEDCV*G*VALPGPPGRQE AYWSHP*GA*A*APPSARL*A*VPASEQ* EGTEPLCRSVPGPVRRVLGAPARGGVCT GKAQAAGGPAELPAPTPKPEGGPGSCSPG LEGV*DEANGSWLPGQAGSLPLPEG*TE ASQSDPEIR*PRRTRPSARKPLSCFSRRP MPTREPPKTRGSRGHLHTHPPGPGPPQOP GPHKAKTKKIVFEDELLSQALLGAKKPI GAIPKGHKPRPHVPDYELKYPPVSSERE RSRYVAVFQDQYGEFLELQHEVGCAQA KLRQLEALLSSLPPQSQKEAQVAARVW REFEMKRMDPGFLDKQARCHYLK GKLR HLKTQIQKFDDQGDSEGSVYF
6785	14836	A	7492	27	445	MHNPDGSASPTADPGSELQTLGQAARRP PPP/PRGTRRPPQDPPISPETLSCFSRRPM PTREPPKTRGSRGHLHTHPPGPGPPVSLD REGVPRPGL*AKDLAPAV*GTPVFPTPRF NSRPRFVAAAGTGAPRPNQORPP
6786	14837	A	7493	1	368	FQQNLTLISAHCNLCRKF*FSCLSWDDR HVPTCLDNFLYFW*RWGGFYHVDQAGL KLLDSSTPSAS/SFPKCWDYRHEPCTWP* KYSFLTEH*LLPVY*K*IAKPFPGPKQIVKT FS*GCKNI
6787	14838	A	7494	10	504	EGDKGTPVLRGFSSVSGSWSRMPFLL LTCFITGTSPVALDPCSAYISLNEPW EGTIDHQLDESQGPPLCDNHVNGG/WYH FHGHGRGDAMPYLSFFTRKPLWEPTAPV WLNQSHPL*GDGIVQRQACASFNGNCL WNTTVEVKACPGGYVYRLTKPSV
6788	14839	A	7495	84	250	NRIENPEIKLNTDSQLILPR*FNWER/DSL FNKCWWNWIFKCKTMKLDPFPIPDKN
6789	14840	A	7496	63	743	SSCLLAAFRGPAHASHCP*SPAHSKRPI HAQLFPLVASPGPEIPQGFAR*SCCLPVP SPGPVLPSPWVYSPIS*LKTTYFGSAPAQ HLAAVGLKLPQVKRSRPRSCCPGAFTG PATA*RWLPQAQVLPSPSLPRPCLTVA FPVHVTACYPTALTDQTLPSHWTV*DKL IRLPASPGQSSCLTLASIGPGAESAMVCL GPSHAFLKTLQATIWPDTFCGPM
6790	14841	A	7497	340	368	VPTICQVMS*HFHPSSSSSSSSSVINY*/ FGLLLC/QVAHFYNSIDQQMIQSQRPM LQSALAFEQIIKVNGLLI



6791	14842	A	7498	2	826	LVKKTCEVPLQAGRLYLDHHQSKPFLKL HSKTHV*RCPLGIQTTGPVTLRR/AFNLR PVLSPQQRVPVEARPRKCETHTESFKNSE ILKPHRAKPYACNECGKAFSYCSSLSQH QKSHTGEKPYECSECGKAFSQEASSLIQH QRIHTGEKPYKCSECGKSLSARNANLTK HQANPHREEEALTGCSECEKAFS*LLSL VQHRIHTGEKPYECSDCGKAFRHSANL TNHQRTHTEKPYKCSECGKAFSYCAAF IQHRIHTGEKPYRCAACGKA
6792	14843	A	7499	64	372	KLFFFHRESVNEIKKKTIDWENICNTYE* KPVTYK*FLQIN*KEIN/DQIEKWTKATN RQIAEEIIQIVNKHKRYCSASFRKKQIKT KKRCHFSITGKNYKE
6793	14844	A	75	3	298	
6794	14845	A	750	444	999	HSLTATALTLGSLVFLHSSPCCAAGLWA SDLPSVSLPLTQRRWLPFPKP*KWLGG* QRGPAPLVSCIPAPWFTQRRMKDGSIS HAPSPTLRHPGVGGRSPRPLAWSPVGAI GMYPLTGPLPPPPQPRSWISGPSTPILSLC PSPSTRSQGFPPQGLEVCVTPIELLPEVRL KIKECLSLVS VKK
6795	14846	A	7500	2	414	RQGL/DSVTQARVQWSDQ/GSLQPRSPG LERSSHLSLLSSW*FEISFRTLQQLVITGN ILGHQKITGTNHR*FMLYSSFCLFFEMES HSVQAGVQWHDLSLQPPPLGFKRFSC LSLWSSWDYRHPSSCLAYFCIFGST
6796	14847	A	7501	18	73	SYPGAAVSPAPWSPGASPLRSSPELHLRL SSSASSLALAKNALSRA SPSPAAQ/ALPSP SPLLWPLTSSPGRQASPVAPPSASNGT*W GTC*PEAILGLQSAQPPGAPGPPH
6797	14848	A	7502	3	363	KTASPVQVKFCAGVALPNLKQRPLREK AQQCI*PLLMAFRNTGRIPCFSCNIPVLP GQKHGTEDYWFVQDLRATRQIFKAIYLV IPDAYTLFMTLTSELYW/WSVLNLKDIFI CIPSPES
6798	14849	A	7503	47	231	NCSSVFCFPGSQRVGSILGKSW*GWVVA TGVWLLNPLKAVGQEEYSLKMEGPRPE VTCRHL
6799	14850	A	7504	1	3099	MGSCSGGERLGTSPKYSMGKWEFVAKE QCGVPCPVQLGTLRNDLSLEAQLHEYVK QGNVYVKVKILKKGSQPHSPRVHSLFTE GTLDPQAPDPCLMARETONQDAPCPAPF MAEEASSPSTGQPSLCSFEINEIYSGCLIL EDDIEPPGAASSLEADGPNQVDELKSM EEELDKMEREACCFGSEDESSKAETAY SFDDWDWQNGSLSSLPESTREAKSNL NNMSTTEEYLISKCVLDLKMOTIMHEN DDR
6800	14851	A	7505	2	707	LTTH*IIHAGEKPYKCEKCGKAFNQFSNL TKHKITHTEKSYKCEECGKAFIQSSSTPS KQINDGEKPYNCEECGKAFNQASNLY*/ HKIIHTGEKPYKCECDKAFNQSSIFTKH KKIHTGEKPYDCEKYGKGFN*SSVLNTH TIILTAEKLYKPVRCDASDNISNFSNHK RNHIGES*KCGECNKVFWLSHLIIGNI HIGKISYK*EQCGKVFN*YTLHRKSFIFE KNCRN
6801	14852	A	7506	1	681	IVTADQLLGMGQWAAIRNQTMLNDEVI EQLWKCLDAWDKIQDDDKLPCPF*QP SDGAQT*NRIPHFNCPFKDAAEKSY*IA RANDLL*NLMAEQVNPRL/CQVAICPIK GKIPPGDVLTSYIKVCEGVRGTLRTAM VMAQAMVSIRMPGQFPKGKFLCSQSGH SKRNCPPWHTDRCSFQHQQPKFFQQQAP LSTICPRCQKGNHWVAQCHSKFDIDGNP LRSLP

6802	14853	A	7507	2	342	STVKGPCSMCRTIHHVPHIMGFIFGVQG WHDM/C/KSINVNHSVNRMKNNHMI/S NDAEKAFDKT**SVSIKT/L/NKLEVKG YLYIKVAYDRLPARIHADD*RAESFPLRL GKR
6803	14854	A	7508	1	358	VFQSFFKHRNQKVPEPPPLSKT/AKNLFA QLAENIASCLDDSSCYGYKKANIRDQWP *EAKELMPQDNFN*LFPQTDATRSSIWL LKTSIIKKYHVTHYEKALKTHEKELTCLR HDRVGTC
6804	14855	A	7509	2	681	
6805	14856	A	751	172	431	IGRPTKQQLGQWTAVWERMERTNKSRA WPNACEGPGAVGNIAWASGLP*MLKT RAARTWVQAGVRESAQGFLNKNRRILE MGLSR
6806	14857	A	7510	670	1466	KKIRPFFQIFDGFISNVLVFAQSGFPCLP VAPSVTS**LKA AVTAGLEVPSDVSDRA FEWLSAFPLADSPYSIHHPRIQVFLKRE GSSRRWVLEPITADSDPAYSSKVLLSSP GLEELYRCCMLFVDDMAEPRETPEHPLK QIKFLLGRKEEEAVLVGGEWSPSLDGLD PQADPAG/SWVRTAIRLCAGPELGIDLS AVTKWWRFAEVSVAAGDPPGGLQTVV VYLPGLDHHAYFGRKWEVPGAKQKA ARGSSPNPGRHKG
6807	14858	A	7511	155	359	VNSSHRDQWNRIGGP/ETNAYIYGQLVF GKEAKFI*WRKNSLFNKWCWET/WISLQ KRMELDSYLTAYVKI
6808	14859	A	7512	2	495	RKDILYSWARRFNIVKMLMLLPKAIYRF TVIPIFLLQND*TAFFAEMEKPVLFKI*SY RRP*IAKQS*SSSSSSSSSSSSSSSSSS SSSSSPVNSSHRDQWNRIGGP/ETNAYIY GQLVFDKEAKFI*WRKNSLFNKWCWET GFPYKKE*SVDSYLTAYVKI
6809	14860	A	7513	155	359	VNSSHRDQWNRIGGP/ETNAYIYGQLVF GKEAKFI*WRKNSLFNKWCWET/WISLQ KRMELDSYLTAYVKI
6810	14861	A	7514	2	495	RKDILYSWARRFNIVKMLMLLPKAIYRF TVIPIFLLQND*TAFFAEMEKPVLFKI*SY RRP*IAKQS*SSSSSSSSSSSSSSSSSS SSSSSPVNSSHRDQWNRIGGP/ETNAYIY GQLVFDKEAKFI*WRKNSLFNKWCWET GFPYKKE*SVDSYLTAYVKI
6811	14862	A	7515	1	399	NVLIWEDCIAGQAEVLHDSYGIIDWSPK GMFSMNCTSSQSCPWPHYVQLV*TERSD SRNDKKYGKSSYYLETWQYSGPQPQMI WPAVGAHKDLWKLIIAFDKIKIWEKG YTMSQYNPNYILELVENNTIW
6812	14863	A	7516	10	225	YCNIHVGDFNTPLSGMDRSSR*KT/NKE TSELNYTVDQRSLTDIYRTFHPNNLMIHL KELEKQGQTKSNIN
6813	14864	A	7517	37	348	WKMGQLPGRPQLPQLSQEKILSLNSPNV FSSSPLK***NILPKKKRPDCFTHKFYQTF KEEIIFLKTTHQEFEKKEILLKSFYEGSV V*AAKLNADINKKTTH
6814	14865	A	7518	3	353	CRLGGLKGRSREQGA VIREGEDTLG/SET EAGRPAGSLRQQRRGRPWLPVPVKH GVPTGEEHWAGEPAGWGGSVSGQAG*A ESRLSSSGHSGQKGGAVMLLAADRRRG QRRRGSG
6815	14866	A	7519	54	284	NHKTPEENIGEKL YDIGL/NDFLDMTPK AQAMKAKVDRWYGKIL*NLCTSKETIN RI/NNRQPMELKKL MANHISDKR
6816	14867	A	752	253	428	QASGVSDLQ*KLCAC*AQSQDLRGGGFR EARKTST*QPGFLLFCLLYSANKLQESV TFKDAIDFSWEEGQAESAQRMTVYGE VMVENYQEPGFLGKYLFTQTRGGPL

6817	14868	A	7520	29	261	NHKTPEENIGEKLIDIGL/NNDFLDMTPK AQAMKAKVDRWYGIKL*NLCTSKETIN RI/NNRQPMELKKLMANHISDKR
6818	14869	A	7521	5	2088	LSSPSQGRGADSA/PGEFSGTQLPPQGE LVPQHLAQPHAVPAA/EVGPAWWPAGAG P*TSPSGRGRPRLCPPAPGPPLPLAAGPG ISHGQPPFMLLDGLAPGPPGGSGAS/GLPG SSALPRPRGEGVTPGIRGEGLRHTGA/G APSHSHSTCPSRRWQAGCPPTLTAPPPPG WATSPPPESRCRVSGTSR*A*NPGHAA ASSGRWDRGPGAAAGPRPG*AHPA*GS GASGSSPGEGRARGT*PCSTEPSPGH* STGPSPCPAGGPRGRLLLPLPGPDQGRW APTSIGPLRTG/PKLQTPPTSCPGR/KLAEG EAPGLMGVQVRQCEAQHTQRPVWLVV LQEGQDAVCVELEPVRVPAGPRGAADG RGCHRRQA/P*RAGPGRRPLCSCTAGAA GSFPPAPRSGQQGGLGLAPGTAAEQAA HRAEPPRCKMPA*/PGPCVSTTCPCVSAS ELGTPGSEPLAGR WREAGSSQAVGLAA GGGGC*DQRTPAFGGS*GAGKGLRGPPG LVTSLSAVGRCASEPGGASGAAGRGRS GSPREPRVSGASRSPCG*AGCRRASSA GCRPRPGRA/GSAGEKADTYSCCRAAS/G RPERPSRPGARS*TPVRVYTA/GMVGGQ GLATPGSPCCCP/GPPGGRPRSRPE/SFPR ADPSGYRGLPADRHWSKGP*GPALPGPG RSQAWALLGPQHPRSPAPAGAGRGRAG HRAH
6819	14870	A	7522	45	301	AGHHHWKRGPEAPRHEMCPGSSKNQGL VQGLAGGWGKKGKILKGSSTSPGEPGS GQIHLKKAGTCCGSSKDRGVRNYSGR LLRR
6820	14871	A	7523	453	704	AGHHHWKRGPEAPRHEMCPGSRSGSEG ATCFARGR*RPPGNLSNVSRMGTRSSYS CRRHSPAFLSWGKGRCHLCNKAHLLAG A
6821	14872	A	7524	3	543	TCCIQAAAGTGGSGAPGLASVVGGAAPL WSSF*NSLP*QIRFALVPLPGCRAPGTFFA PLYSQWPFPGPQWARSLARGEEGVG LAPHPQPPTWGRHGEQSPRRHHGVGH HHQHVMALGADMRRGLAAVAALVAS* AGRVLGWCGRPARRAAQLGQEGAQGT VLALNGLFFPSRRHGC
6822	14873	A	7525	218	533	AARRAGRPHHPKTRPAQLATSATAASP RR*GRPWGRGLGPAWRPGRGAALGA QRCGHGVRAVPVARAELGAAGFGGA GPGAARGQCPALLPGRVEPRAARGVRT TPRPGQLSSQQAQPQRRARAAYPRREP* HADDDDLLHGADRSSRFGEVHPVQGH TANPSDGGPVQHQHGLPHRYHLHLV *HSRPSGPPGATG
6823	14874	A	7526	3	1185	GP RR*GRP WGRGLGPAWRPGRGAALG AQR CGHGVRAVPVARAELGAAGFGGA AGPGAARGQCPALLPGRVEPRAARGVR TTPRPGQLSSQQAQPQRRARAAYPRREP *HADDDDLLHGAGGVSVPRGAPARWA AGGVGRGRRRLLPWGCERSFSSSL*I* HSQICFF*SSLEQCGEWEGVYGDPSDGG PVQQHQGH/PASQPLPEWKVAEVTGGA RSTEDTSWGKAGGSS*EGGPSGPPGPP GAGGLPGHNGLDGQPGPQGPKEKGAN GKRGMGATG*L*RYGWHLGASGALL *AGHHHWKRGPEAPRHEMCPGSKGSFR ENGHTPSKPAQSSEGO*LPHSPYQSGRW QKLLMGQGVQRTTHHGAREQVAVPRKV DLLDHDLDREPAGCQDITDWMDSLVL AQKEKKEQMEKEEKWGLQDNYEDMAG ISEELPLPCYEQAITTEKAQKHQGTCA GADAAEFKTTTTPRSQVIRKACNVH

						QGARAASEKTGTHRPSQLNPQKASNYH WNYTAAMDRSYRIIIIIHEHRCRIMMPIG LSWEVLQKCDSVLRPRQWA
6824	14875	C	7527	35	217	MXDSRGRXPGARTYRESPGPXXRMXGR SREIARWPRRRPLAPLLHRLLPSPRGIC GGAA*
6825	14876	A	7528	2	342	RALPPPKDPSLLSSIGSYRVPAPESVEGPL /SPWERKQPGERPLSCMS/GLPQLRVGGV RG**EPQGLPQDGDPAHTRCGAEPSSL SLPQDGVQDAAAASFLHTPSQTPCVQRE
6826	14877	A	7529	2	440	PRVRPRVRQSSHLSWRCRVPPPPPTMCL SAHPAPGPDGTSCESHRVIPMTSIAQWG N*V*RGEITCLKSQE/GKS*GHGASCPMT GELKCPHCWG*TGPHQLPG/MSHMFVCI LRGLAGSPARTAARGFLEVAFFKGTIPE RKPLM
6827	14878	A	753	963	1497	NTALSNEEILVMALVVISFLSLTFFQLME GTRLNKLWGFIPRTL*FSE*TLSSIKAKL LTILTPSLKFNREVKNEVCHFVEWFWSY HNNLIKMPFISMFTPLNKMKAFTFICK MTVNINNMHQSTIYAKGEEHLMGCYVN CKLRTACFMAFAVKKKLLAFNMYFKIY SCLGENF
6828	14879	A	7530	3	471	RALAAERPLAPLLHRLLPSPRGICGGA A*PWERKQGERP/FPVSQYLPSAC/GASP PG/PLGTGRGHGADDAPRRTS*ISEVGSV SVRDPG*IEQGS DGRLPIGHSRWDERGLR GLGFVTGK/PWIKGGAILPVGPSKVVLG YTGRGAGLARSQGY
6829	14880	A	7531	2	1021	FFFFSCETTIENTLIFFSGEVSNLILPIPVGH K/L*GGVKEEGCGCVLGLRPAVGSPAG MAQPSAPGVQAGSSILEEGLEVLSQPRA PSRGSQGPVSPPSWKVLQQPVRRTPTPH ASWGKPTHASSFVGGLGAQGGKRMPLG GPGCRPAPGLGAHLYVVCPEFSAPIRGL RSGMVPLKKAATS*DTSGSSPGLGEPASP QLHLFN*SLRGASSVPLSTASPPPEGGLR TQALGRY*ETGKWPFTGLLPLRLSGPST DSGAGTR*EPMEERSEGLG/ERPARDPP GSVPTCGWRGRGSPGTCG/LPGQRPLGR ALRAAKTRPGTCRATDRGVPPGLPRLCR
6830	14881	A	7532	40	403	QWHRLAACSNLASAVSFRIFLYYGERRP SGGARPMILTSPSLTAWIINPLSQLL*YL AAEQQLHRGPRTAPVSGAE*RWTF/L IARTHCLRRGQGRQPPVSGATGAPSFPL QQMPRR
6831	14882	C	7533	182	289	
6832	14883	C	7534	50	223	MEQLCTKVRRFKITTLALILXXXXXX XXXXXXXXXXXXXXXXLFSILYEWYPCH LK*
6833	14884	A	7535	3	398	SNLASAVSFRIFLYYGERRPSGGARPLT SPSPATAWINPLSQLL*YLAEEQQLHR GPPRTAPVSGAE*RWTF/LIAHTHCLRR GQGRQPPVSGATGAPSFPLQQMPRFT

						PGASSSHQEATKSSTREF
6834	14885	A	7536	287	568	CLRDGSPSPSCGLHCHCPACQ*PTPHPHY KHRPAGESIPGNTTPMSASRKRPASTSR RAPPALILSFLCKMGTLPHASRGCWKE RSEIVLK
6835	14886	A	7537	574	1266	SIPCPSSSFSTWLQSSRNFTEDILASVLISA STQSAQSRSPQNQLCKGGSQAPPASS HPISSHGWGLCLDDPPAKDIIDFPLVLP PYAVSHQCRLQYGAYSACEDMDGDSS LISPWAKYPKQRPQGQVFIRVPKKHMQK GSACPLWPVRGKSLPVKMHNPGLAGR WKSS*STWT/IQS/RSCGLHCHCPACQ*PT PGPHHKHRPAGESIPGTPNFCFEKEACV PYFM
6836	14887	A	7538	1	785	NRQLSCGTALSTTGGIYIGERSVRVWGH RFHCLGNESLLDNCQMTVLGAPPCIHGN TVSVICTGSLTQPLFPCLANVSDPYLSAV PEGSALICLEDKRLRLVDGDSRCAGRVEI YHDGFWGTICDDGWDLSDAHVVQCQL GCGVAFNATVSAHFEGSGPIWLDLNL CTGMESHLWQCPSRGWGQHDCRHKED AGVICKFTAFRLYSETETESCAGRIEVF YNGTWGSGVGRNITTAIAVGLCCRHLC GGRNGC*PCIHGNTVSVICTGSLTQPLF PCLANVSDPYLSAVPEGSALICLEDKRLR LVDGDSRCAGRVEIYHDGFWGTICDDG WDLSDAHVVQCQLGCGVAFNATVSAHF GEGSGPIWLDLNLCTGMESHLWQCPSR GWGQHDCRHKEDAGVICKFTAFRLYS ETETESCAGRIEVFYNGTWGSGVGRNITT AIARIVLQATLAVGEEMDANPSPL
6837	14888	A	7539	1	1113	
6838	14889	A	754	1	363	WRESPHSARPRLEPQCYDLSSLQPPGLK* CSHISLPSSRDYSCCATMPS*IFCVFFGVE MRFHVAKAGLKFPGSSNPPASGIPKCW DYRCILGQFSSFEAKPRMLIFLFIICSGH VMMS
6839	14890	A	7540	1	214	VAFFKSAGASVQEKQAQLQEQVKEQRV CCQRLAHPVASAQKEPEAARGPGAP/WA WGRV*QLYGPPEGEGRP
6840	14891	A	7541	3	141	
6841	14892	A	7542	39	210	
6842	14893	A	7543	72	353	QRCPPGGHIYSHKFSNPDSVLPPTVVCESP QPNPGFDPTVWQWGRPIYPHRSALRL QS*RQSGSP*VCLAGSLLCCPWRLGHG LCQAHPGQ
6843	14894	A	7544	5	726	AAILYSGRLSSQPVVVEIHPYTYDTSTS GTVKIPGAEGLRVEFDRQCNTERRHDPL TVMDGVNRIVSVRSGREWSWSELRI GDELKWKFISDGSVNGWGWRTVYPIM PAAGPKELSDRCVLSCPMDLVTCLLD FRLNLASNRIVPRLAASLAACAQLSAL AASHRMWALQRLRLKLLTTEFGQSINIR LLGENDGETRALSFTGSALAALVKGLPE ALQRQFEYEDPIVKGGA
6844	14895	A	7545	441	1009	GLSHGRNTGPLTTSQASTSPRGNNPRAC VARTRVGVPAPELLWMEEMRCVQLFCY SKARSQCSHQG*DV*VFYQACWVSDT WHYLQPLTDSG*YA*KLS/D*VMSPILA TGPCTSHLA*LLDSEPLERSVSSFCKWDV RLLGKTSLLCCVGLAALSSEIFNCLLGVF VWNLASCLCGSACCRVFLRDT
6845	14896	A	7546	59	378	

6846	14897	A	7547	31	302	KGRRVLWWGDKNHRSWHKGVMGQR VQDRQKRKLCQLMGKKRSQRA*ILSGTE HLHVHSHLLACQQQVSTGRALHLLP*RI WRARAKNEQ
6847	14898	A	7548	1171	1731	SPRWSAPRSPSGAPSDASCDGLVPMNGR KMACWPVDIPKTDWSPNPWQEKREIVS SEDAVTPSAVTPSAPSASARPFIPVTDDL GAASHAETMTKTKEDEVESQNKAAAGPEP QALDEFTSLLIADDDTRVVVDLLKLSVCS RAGDRGRDVLSAVLSGMGTAYPQVAD MLLELCVTEL*NPRSRTP*CFSCRADEE VSLALECWEPEELPRTQSPALTTQRAQN TMNKLNFHNRVMQDRRSVCIFLPNDESL NII/DKCLVFSWGDGDFGKLGRGSEGC NIPQNIERLNGQGVQCIECGAQFSLALTK SGVVWTWGKGDYFRLGHGSDVHVRKP QVVEGLRGKKIVHVAVGALHCLAVTDS GQVYAWGDNHDGQQNGTTTVNRKPT LVQGL*GQKITRVACGSSHSVAWTTVDV ATPSVHEPVLFQTARDPLGASYLGVPD ADSSAASNKISGASNSKPNRPSLAKILLS LDGNLAKQALSHILTALQIMYATDAAV GALMPAAMIAPVECPSPSGAPSDASA MG*SP*MGEK\CLLAC*YSENRLSPNPW QEKREIVSEDAVTPSAVTPSAPSASARP FIPVTDDLGAASHAETMTKTKEDEVESQN KAAGPEPQALDEFTSLLIADDDTRVVVDL LKLSCSRAGDRGRDVLSAVLSGMGTAY YPQVADMLLELCVTELEDVATDSQSGR
6848	14899	A	7549	2249	5398	KCHLRAGRCRDVTAIFWLQSSFMDOLEE KADLRKSITFYQNQGGRAKDAALGGGH HQAGAQQGDEGEAAGAAADGVAAYSN YNNGHRKFLATAQNPADPGGPAPAPQ ELGAAGKHGGLPNLRLSFKLALIRDMAI LPFQWNLLISFNAVGLVFSWGDGDFGK LGRGGSEGCNIPQNIERLNGQGVQCIECG AQFLLALTKSGVVWTWGKGDYFRLGHR SDVHVRKPQVVEGLRGKKIVHVAVGAQ HCLAVMDS
6849	14900	A	755	1	433	FFKNFYRINRDSYYKAAKFFPVLCISSFH SYCSTLPQAPLPQAWNLRRSSGVFLLLI SIVRADVPTPFQILGLILEAPPSQSYFLPFS SMDGLMLHPNRKVGLTFSRPGEVAHT CNPSTLGGRGGRIA*GQEFETSLGSLIS
6850	14901	A	7550	1	609	AAATTTTKLAAARQPLPGGGGESAVGA GAGREVFIYLFATASAKRGGGRKRTPG AQSSGR/AVLPSLGPPGRFLAGVC*GSGG PSPFSSPPNHSG/Q/PGAGGEPGNRGPKM GVLAYSLHL*VPCGVSRNTLPAGDGNPV P*SPFLSFTWSP/VP*PWG/ANGPWWADP PPSTHTVP*PSGPPGASGAGPPPSWPRPA KGFAPPRGL
6851	14902	B	7551	222	360	XAVLALRPWDVEAEQFLEVSFLLFFLFS DPRPRDRLRLLELREPT*
6852	14903	A	7552	1	601	RDTSRNCSASTSQCRKASTAPGAEG/DGP QASGRGGAVTTRGSRASSGRGRSVMPL CSRA*DVRARRRRSQARGSSGKLHLCSG KPLRKRSPCSRVPAPGQSRGRRFTSSPP GFPASPCITERSRQKARRRTRSSSSSS SSSSSSSSSSSSSSSDGRKKRGKYKDK RRKKKKKKKKLKKKGKEKAHRSQSIIR
6853	14904	A	7553	42	384	LKSAALSHGGAKQAGDPLHPLPLRRD WAGPETNPRGKGHQHPSGFPLAP*NLP LGRQRSSTGLGQRGPGSKQPSSHLEGQA VPSGRLAGEESTQDGRGTSQTDAGGWM AGM

6854	14905	A	7554	1	713	AKGAGLEARGAMAHVGSRRKRSRSRSR RGRGSEKRRKKSRKDTSRNCSASTSQGR KASTAPGAEASPSPCITERSKQKARRRTR SSSSSSSSSSSSSSSSSSSSSSSSSSDGRKKR GKYKDKRRKKKKKEEESLKEEGQRKKA EAQ/RGRASSASVVD*DGHAQAY*REM /DEGPKRKS*PKNDTERSTSQATQRTAD GHCQMQSDGYASREGPPHGGQPDGRQL AAQPGQVSGCQWEA
6855	14906	A	7555	2	642	HALTAFNIVLEVLVSAVRQEKEIKSVI GKKEIKLSLFTDDMIVYVEYPKIDKNA/L LEIISNFTRVVGYKVNTQNSVTFRVYHQ *AS/EYLKLLKILFALEPPKVEYLGSNLTK HAQDLYEKNCKTLIKEIKELNKWREILC G*KYSVFKMSVLLNFVYRFNAVPIQIPVS CFVGI/EQT/SLKFIWKAKRPRIANSILIE NKVTGLTLPPFFKA
6856	14907	A	7556	3	577	TSNECGKTFRHNLSVLVIHKTHTGEKPYK CNECGKVFNRAKAKLARHRIHTGKKH* KYEECDKVYIVNQVLKDRRIHTGEKAY KCKS\CDKNLGRDShLAQQTRSHTGEKP YKCTECGKAFSGQSTLIHHQAIHGIGKLY *CNDYHKVFSNTTTTVSNHWRIHNERF*K CNKCGKFFRHCSYLAVHR*THAGE
6857	14908	A	7557	286	336	GL**NTTS/PKISTEYISP*AKPPVMRGQD SVLYHSDYDEEWNRVWANVGKSLSCS IAMVDKLIERDGGSEASGGINDGEKERSL TDAIPSLPREDWYEQLYPFILTLKECV
6858	14909	A	7558	2	246	RPLKHTLVTCDKGGL*FEPFVSG/PPRC A*GDGKPEVPFIGTATFYHYLPTAYGC MLTST*RKVEETELDDFYDGNRRGR
6859	14910	A	7559	3	348	GWRLVRPLFMGHRQPVISGLQPEQLHL KL*FLCSGVSDCASFPV/QSPEPKVFFAK EQLARRKLQAEAGASATLSCEVAQAQT EVTWYKDGKLLSSSKVCMETGCTRR LVVQQ
6860	14911	A	756	362	567	PAPTPGTWDYRHKSPCLANFLYFY*ROG FHHIGLAGLELLASR*STHLGLPKCWDY RCEQHVOPIENIF
6861	14912	A	7560	16	220	HREMTGNDLKILQKVNKLWHLYTTAY *KRAIKKSKLLVHTK/TWVNLKGVVLSE *SQSQRVKYWSTRP
6862	14913	A	7561	204	868	KGNQVSHEYSWKFRTLSLS*KQF*VLKRV YYRRAVKLVNMSNIAEHPGFMKTGECL RCMFWNNGCIHFAMSKHNLGIFYFKK ALQEE*QCLCTAPVQVALIQVKNFQGRP MCTLLNPIRGYELLYNCGISLLHIGRPL AAFECLIEAVHVYHANPRLWRLAECCI AANKGTSEQETKGLPSKKGIVQSIGQG YHRKIVLASQSIQNTVYNDGQSSAIP
6863	14914	A	7562	1	1047	MVSISWPRDLPASASQAGITGLIGALVL SVGIYAEVER/HEI*NP*KCLPGSSHHPHP PGRRHVHGLLHWCAGVPP*QPELLASL RLSRGYGLVLSWLEPRYEKMISGMYLG EIVRNILIDFTKKGFLFRGQISETLKTRGIF ETKFLSQIESDRLALLQVRAILQQLGNS TCDDSLVKTVCVVSRRAAQLCGAGM AAVVDKIRENRGLDRLNVTVGVDGTLTY KLHPHFSRIMHQTVELSPKCNVSFLSE DGSGKGAALITAVGVRLRTEASS
6864	14915	A	7563	77	2246	
6865	14916	A	7564	1	475	HIKNMTFIYFSSFIFCFPRWSL/DSVAQA GVQWRDLGSLQAPPPGFTPFCLSL/LQS SWDLQAPRHRARLIFYFFLVEMGFVTL ARMVSI*PRDPPALASQAGITGVSHRA RPETYNFCSFIHSSLPVEPEARKMTKNSD IGEJWINLGTCLIV

6866	14917	A	7565	3	362	SAIIV*DINTPIMGTTTRQMINKEIEDVNS AINQEDLLVIYRTLHTAAAEFTFFSSLHE VSSSDMMLGH*TSLNKF*SEIIQNASH KGIKFEINNKEI*KIHKYVEISSTLSSKQG
6867	14918	A	7566	188	1055	VIKAAEGDSGSAWVLDEADPTGGPGLG CRGTKYLLRSGAGGLSD/GGPCPGPTDL ALSPKPPGLHGPPSPGALAG*DLSRLPR AHSENPWGAAGGGSHRA*VGS/ADQAD NDTEGNNKDPGRPQAQPSRGS LGPATG RSGWPYGPSP*PTWGGQGPVSTPREGPAGV RIEAKGKS/NVGGTGGMAPSPSRTCNLLS LPKLSGVV*EAWNPGRADVHIMHAVGLI KTSHEWLDPPADSQAQSGCAGSGQEPQPA ASGSAAWRRCSQGGLGRLRHQQQEEGP SSQHVGVGCVPCGG
6868	14919	A	7567	2	380	AR*LFSRVNHMVGHKLSLNR*F*KIDIIQSI FYDHNSMKLENNNNKRKTGKFNLWRII* IIYL*THK*KKKITREIEKYLEMENNRNK TYRNLWDAKVVPKGVEFIAIGASL*KG GKSPIQVS
6869	14920	A	7568	1	370	GTSAWPQYKLDNDSK*PENGTFEFSILQ VLDNSCHKMGKWSEVPDVQAFFSHWS LPSLCSQC/GLIPNLSSFSFWSFG/PPQV PSP/TESFFSMDSSDLPPSPQAAPRAEPG PNSHLASAPPPY
6870	14921	A	7569	3	369	HEVKTMKILEENLGEYLLDLVGKDFINR T/PETIS*NKIYKFNFIKIKNFCSLKDILKEI NRIDWEKIVTKHSDKGLVSRICKFHDSV /YKMRTQFFPPKDKDLGRYFTNKET*MV ASGHLKMC
6871	14922	A	757	204	389	DMGYDVTRFQGDVDEDLICPICRGVLEE PVQPCQTKVICILGQV*GEAHDYHAPYC EHAFC
6872	14923	A	7570	1	2722	MGSAPVPSQACLEALLLIPWAGCVSQQE EEESPAEGSKDEPGEQVELKEEAEPVE DGSQPPPEPKGDATPEGEKATEKENG KSEAQKPKSEKAEAGPEGVAPAPEGEKKQ KPARKRRMVVEIGVELVLDLPDLPEDK LAQSVQKLQDLTLRDLEKQEREKAANSL EAFIFETQDKLYQPEYQEVSTEEQREEIS GKLSAASWLEDEGVGATTVMLEKELA ELRKLCQGLFFRVEERKKWPERLSALDN LLNHSSMFLKGARLIPEMDQIFTEVEMT TLEKVINETWAWKNATLAEQAKLPATE KPVLLSKDIEAKMMALDREVQYLLNKA KFTKPRPRPKDKNGTRAEPPLNASANRA FPSPLTPWADQNVLSTVSPYKILGKGET MVVPRVFGRMVGKSREAVAQAMVLEM FREEDYNDVLDQMGASILGVEGPRR HPDEPPEDEVFELFPMFMGGLSAHNRA VLAQLGCPKINLDALENAQAIKKLGLK GRQVLPPSELLDHLFFHYEFQNRFSAE VLSSLRQLNLAGVRMTPVKCTVVA AVL GSGRHALDEVNLASCQLDPAGLRTLLPV FLRARKLGLQLNSLGPEACKDLRDLHL DQCQITTLRLSNNPLTAAGVAVLMEGLA GNTSVTHLSLLHTGLGDEGLELLAAQLD RNRQLQELNVAYNGAGDTAALALARAA REHPSLELLHEVQRNLNSWDRARVQRH LE/HP/SCGIWKIAGVPLILGARPSCEW RARAPSKSPLRRCPNSHPASVM*PA*T NLSIPWCCVASSLLRRCGSQSL*PSS/HPA AVSMETYHVTLTLPPTQRGEEQVELSTIE ELIKVP*SAPSQP*WSTSGLALPQEA WYVVRSH*CPRLSQSPDLTGYSYSGFGL TWEMSWKAPRNCV
6873	14924	A	7571	2	394	



6874	14925	A	7572	1776	3257	TNLSIPWCCVASSLLRRCGSQSL*PSSPPL PSPWRPTTSL*HCHQHREVKNKWSSPQL RN*SRMP*SAPSQP*WSTSGLALPQEA YP/REKPPMMPQAQPAIPRPNRLFLRQLR ASH/CGK/WSWKAPRNCV*LNSTTPCS RSGPSPRGLDPRWSGQKTWHLLGSQA* ATTPGPLMEL*/ELFNPDACGRRVQTVVL YGTVGTGKSTLVRKMVLDCYGRPLPAF ELLIPFSSSLCQLVAQRYTPLKEVLPLMA AAGSHLLFVLHGLEHLNLDLRLAGTGLC SDPEEPQEPAAIIVNLLRKYMLPQASILV TTRPSAIGRIPSKYVGRYGEICGFSDTNL QKLYFQLRLNQPYCGYAVGGSGVSATP AQRDHLVQMLSRNLEGHHQIAAACFLPS YCWLVCA TLHFLHAPTAPAGOTLTSIYTS FLRLNFSGETLDSTDPNLSLMAYAART MGKLAYEGVSSRKTYFSEEDVCGCLGG WASGRRRSFWSLHIFRSGWP
6875	14926	A	7573	201	1436	PCDPREYP**ATSPTRRSWPWSISHPRPG S/HPLALSQLFNPDACGRRVQTVVLYGT VGTGKSTLVRKMVLDCYGRPLPAFELLI PFSCEDVSSVGRAPASMCQLVAQRYTPL KEVLPLMAAAGSHLLFVLHGLEHLNLDL RLAGTGLCSDPEEPQEPAAIIVNLLRKYM LPQASILVTTRPSAIGRIPSKYVGRYGEIC GFSDTNLQKLYFQLRLNQPYCGYAVGG SRVSATPAQRDHLVQMLSRNLEGHHQIA AACFLPSYCWLVCA TLHFLHAPTAPAGOT LTSIYTSFLRLNFSGETLDSTDPNLSLM AYAARTMGKLAYEGVSSRKTYFSEEDV CGCLEAGIRTEEFQLLHIFRRDALRFFL APCVEPGRAGTFVFHRRARHAGIPRCPLH CAGFAQDDPAKGGQGGSG
6876	14927	A	7574	1	376	PFLPPYMKINSR*SKDINVNFKSGSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSPL*KKNTPIKKVVKMDMRPRA
6877	14928	A	7575	288	468	KAEAGGWLEPRSSRPWRREAGAGQSP GPG\GRGCSEL*LCHCAPAWTTE*DLASK KKKQK
6878	14929	A	7576	1	378	YRKP/TADNIINGERLDAFPLRPGTRQG/T PFLLLLFNIVPEVLVRAIKQDLAETIIIV*IR KEEGKLSLCTDDMIFYVENPKEFIKILLE QISSQVAEYKINIQKSVVFLYTWNEQSK YEIKIISRA
6879	14930	A	7577	840	1093	QHKNLVL*SGRR*LLSQEES/GIFFTLVI TTFCWER*NRRILSI*RTMGARIHFQEP VIPAPWEAKAGGSLEIRSSRPAPWPTW
6880	14931	A	7578	254	701	KTGKEGPVRWLMPIVILAPWEAKAGGSL EVRSSRPAPWT**NPISS/KNSKNIKISLA WWCTPVVLATEEAET*ESLEPGGRGCSE PRSCHSTPAWVIGAPSQKKKKKEKQARR SWLAGHSGHLHYASYAGRCGRVGGLE PRNSRAAWAT
6881	14932	A	7579	12	154	CLCMSTCMCACVCVSCMHICVDCVC /CVCVCACAYI*LRVCVLVCVFLYVCIFV SVIVCVMCVCVRIYLAFFPKSLLK
6882	14933	A	758	381	1335	DMGYDVTRVQGDVD*DLICPICSGVLEE PVQAPHCEHAFNACITQWFSQQQTCPV D\RSVVTV\AHLRPVPRIMRNMLSKLQIA CDNAVFGCSAVVRLDNLMSHLSDCHEHN PKRPVTCEQCGGLEMPKDELPHNCHIKH LRSVVQQQQTIAELEKTSAEHKKQLAE QKRDIQLLKAYMRAIRSVNPNLQNLLEETI EYNEILEWVNSLQPARVTRWGGMISTPD AVLQAVIKRSLVESGCPASIVNELIENAH ERSWPQGLATLETRQMNRRYENYVAK RIPGKQAVVVMACENQHMGDMDVQEP

						GLVMIFAHGVEEI
6883	14934	A	7580	139	350	AIMAPNFPS*VKT*SQEDGQTPNRIKLKK STSRHII/IAEN*/LAK*NILKAVREKWLIT CRRTVISMTMDF
6884	14935	A	7581	17	245	GG*GCSCSEL*SCHCSPA WVTSTKLTQK KNPQF*QVV*NI*IPCLLDSEFGLFLPKS YCYQCKVTLQCSKSL
6885	14936	C	7582	82	300	MLGIFEGQLQINQLVETGLKRWLRLRNSF LKRFCYLLKSLSRSSRTTTTAFVCDGR WIMQIPGSVLPFPQCW*
6886	14937	A	7583	1	772	KENLITFPRIQISKDDFRRYRGAIARKRI RLGRKYVISHKEEVPLCIHWDISKQASLS DSNVEALKKLAARGWEVSTVEKIKIY TLEEHDVLSVWVEKHV/VEVQHI*LIRLL SDFTKRPLWDPHFVSL*SHRLG*VKDDQ LYHITCPILNDDKPKDLVVLRIHEGKPLK DGNTYHS/VAVKSVILPSVPPSPQYIRSEII CAGFLIHAI*QQFMHSYLTLTICLLGILPY FGWEILGGLGPKSIGRKQOPLVYSS
6887	14938	A	7584	3	307	RFTEHHRILTGEKPYECKEKGRLSSNT ALTQHQRHITGENPFECKE*GKAFNQKIT LIQHQRVHTGEKPYECKASGK/AFSWCG RFILHQLHTQKTPVQA
6888	14939	A	7585	1	374	TGVTAAATQASWTPPIDGPTTQEKLS*A NTAPGTEGEQQVHGEKKEDPAVPSAPP* YEESTSGEGRKAWAFPPAPTGEFPHPNW AYVDPNSNSRYDNGVPTGDHEL*TTFS WDDQKVRRVFVR
6889	14940	A	7586	1	512	
6890	14941	A	7587	1	399	FFFFNYITRYNKHRYYYKMSKKRCHKIF QMIDMLNAASCAALGRHSRWVVGGAH PTTP/GSAQAPAPWSHAMGARTLPPRPF SVFGHSSATPKVSPSAAMPTEAQRPLPGC GPGSDFAGHPQC*PPQVQIPTSC
6891	14942	A	7588	49	430	KWWKVDCVGDMLECASIGRSEAFKTSS FQFSLATSEVCGHSSATPKVSPSAAMPTE AQ/QTPPGCGPGSALLGIRSADHPKCRSP LRVPPPRSTSKVLAPFLASSDHLEHTCS SQVRLPAAVRGAST
6892	14943	A	7589	467	1518	LANCRCVPGGHWMQEMVRELWMWNV EEEEHEVGICTWGGQHCGCPAKSLPGPH PGGVSA PQSASQLMVKLLVWQKSVHKL RKVSATSSIAVYPCPGQSSGGAESPAPGP GLAGWSHLCGAALAEVQAAPVSQAAYS DASLGPEWSQEGCRPGLTSGQHGRDG R*RGSRQGDPIQSPSPGIPASSAAL*VGL VLVKWRPVHKAYDPVPEASPLSANFRN PGPAEAPGPMGKTKGRGSAGGA/GAGS AGLAPPPRSSQGAAGIGQ*PGLPEEAVHP CKGSCPASSLSAGTPRAPPPHCPCLGPRR QGPCSHGVTPGCRSLG*AGGVG*APPRT QREWRPRAAQEAFAFNMSII
6893	14944	A	759	1	1236	
6894	14945	A	7590	296	423	MVI*KL/PYKKSQGLGTFTDEFYQILKEE LISILLTLFQKIQKE*VTYKKSQGLGTFTD EFYQILKEELISILLTLFQKIQKE
6895	14946	A	7591	3	167	VYTKILRADRDMLTGYPCCSTGLLTADD ***DNTLEV/IALRRGPFFYLEGLDLSPK

6896	14947	A	7592	19	406	PLQELGGQSLSLHYVGGRAPGPPAPGHP PVQSLQRPCVPTQQLLTPEFWCPAL/RQQ Q*GHRQGTGVPVTPGPPLKGQWQQGPP QKEWQMRPKAFGHHPGGLCQSLGGAPR RWNRDTYQAGPRQGCGALM
6897	14948	A	7593	2	3532	
6898	14949	A	7594	3	300	KGPWKQENVEAEASMVIAVPEPFGGAIH GQESITYHNGDKYLAIAPIIKQSTIVCHN RVDP*WPQDTLLGDMEGRLFTALQKNP TEKKIPQALQQAN
6899	14950	B	7595	1	819	MARGSAGLVLGRGRRLHDWQLGSGHSAP GMLGQVALAGRTELAVPSLDTPGGGEQ RASDL SRLTSSSHESDHTVRAAHSPLPAE ALTRSLPCLQNVAVHRLYIKCQLDFGGD SIAVGTWPYPMVWIPVWVWIPVWVWIPVW WMEHTVLIHLPVGGHVGGSHLSAPVNN VCGNVAEPPALCGTKASKPPLTPPIRS KAKFLGGSVCLGRHNKLSQTRWLKQQT FISHDPGGWKSNIKLTRPAQDLLMSVCM NCNTHGSEDMDVISHLIKIRLKP*
6900	14951	A	7596	2	3235	SPASPAGRSAAHGSASPSGSPHPSWCTV GRSSCWSSPSP*ASSGSGTPPTQPGRCSL G*MRRRRPAGGAQAFQLKGKKWRRFGG W*PRWEAGCFQGEW*GATDSRTASNQL GPPHLQHLHINPPARQPPAFNRVVKQAP WRPQARAGAPGKPDQDAHQRVLQNG HLGAQTQEEVAVTLGWPVPLVVGRL LCGTAPCAGSARSARGELADGGDHSVE PPDGIPLDG/EQSGSGMSGALPGSSFLCP RRCRP
6901	14952	A	7597	2	1065	HMILCVENSKDSTKKNLLDLINEFSKVA GYRINIQKSMALFTNNNLAESRKQCPF /TDNIKHLRIHLTKMKMVHQYSLHTENH KTLMKYIEDTNK*NDIPCS*IGRINVK VSILPKAIYRFNAIPIKISSAFFEIEKHQF LWIHKRSQITKAILRKKNPGGIILPNLNY YKTRVIKTIQYWHKRYTGQ/WK*PEINPN MYG**IFDKSTKKT\WEKGSFNK\WC WDF\TCRMLKLGPIYITPYTKINPKWKD LNVRT*SHKSRKENIRGKAPWTLGFGQC FLGYHTKTSQYKSNK*MKLYQSKLL HRTKTINKMKRQCTDKEKIFANHISGV LIFRI*EELIQLNS
6902	14953	A	7598	3	333	TLLPEIQAYTQEQWLGSPPEATALAERL QQESAGPGLQMNGGLVLGAWVCLPP/SS RPPAEPSTGAQSWVGG*EGPGGCGKVM VTGGLSVLAWTAESEISSHTCVLRIVS
6903	14954	A	7599	252	684	HLFRQLFLEVLMSLQSPCLVAHSASRWC TAPVTADAPSLWRALALWLWLAHQGP GTGWPVLSLRRRSASRLAASPSNPSPR NIH*SPQRPVCSRGPSPATCPLGLPRTSP GATRPGPVSPSPRSGIAAAPGLAPAST PP
6904	14955	A	76	189	442	KTMRSIRSFANDDRHVMVKHSTIYPSPE ELEAVQNMVSTVEALKHVSDWLDET KGTKTEGETEVKKDEAGENYSKDNG*R TL
6905	14956	A	760	55	792	GRAGACSLIDTAMSIESSDVIRLIMQYL KENSLHRLATLQEETTSLNTVDSIESF VAELKSGHWDTVLQAIQSLKLPDKTLID LYEQVVLELIELR/ENLGAARSLFETRPDP MIKALKQTQPERYIHLENLARSYFDPRE AYPDGSSKEKRRAAIAQALAGEVSVP SRLMALLGQALKWQQHQGLPPGMTID LFRGKAAVKDVEEEKFPTQLSRHIKFGQ KSHVECAPRAEFVQRRSN

6906	14957	A	7600	156	888	FRSSVSPGSGPPFSVSVTGSGCPS**HSGR PGVLVLKLPQGS*ASLPPAFPGGSDVAA GRGLSSAADCFSLTGLGTLATPVLF LTSN LKLLQESVPK*LNSASS/PGVPRP*LQMH RLCGG/PRSLAVVGTRPGARNWLASAFS/ VGGGQLLGLQHPLQKIPPSRNIH*SPQRP VCWKAGRRKTKPRVDLQALETCPGLP RTSPGATRPGVSPSPSRSGIAAAPGLA PASTPPLSPGPTPLPP
6907	14958	A	7601	231	457	QWLSLLPLGLGEDTKSLRANTSNELEHS QATIWEEGGPTSSSLWRPFNPGSPTNRN PKLMPAVQPPHPSG*TPSVTWLHISWR WSP*GOSKASLPLPWNSTCYPQTNKE TKTQSALSTPSTNCNQPKERRPVCLPWV PPTSCSSTDREPPAWAHSTDPSCDGTAK VPSSAGSKLGRKHHPRAAVGS LGASSHN LKAMGEEPTL/VTALRGSKVTTV/SETTR PRKKLSTDQYT*APPTGSHPKASTPKIRC CVSPFSRCYEEIPETG*LIKERGLIDSQFH MAGEPSGNLQPWKAKEKQAPSSQSGR TE*VPAGEMLDITYKTIRSHETHSLSREQH GENHPYDPITSTWSHP*HVGIMGITIQEI WVGTQSQTISLTYPSP*NQTKEVSNK*RP PYGRREDQPLPPCGGLSTSLVPQQTGTPS SCQQCSRPIPVAEHPQ
6908	14959	A	7602	2	289	LACYSPFPFGGP/PSPPPRAGGSNPPGPPG LTPFPKK/AKKLL/RPSSSPPLFPPLGRVG PGDSFYPPGGEFP*PRVPIT*NWGFPPPR GTKKKLPF
6909	14960	A	7603	3	805	DRVSLLLPRLECNGAISPHCNFRPGSSH SLASASRVAGITGVCHHA*LIFVFLVEME FHHAGQAGLELLTSGDPSPPWSPKV/YRI TRHGATATWPYIFKNFYPTRPS*NSLSLK RTS*IQMPAL*MERLQFVCPS/LAEDLTK F*EKQDSKFTSQNRN*AFSRRS*GMLEK D*KWTTSDIV*VFVLFKSHVEMLSPVLE VGSSRRFLGHGGRSLMNGWVLSLW**V SSYSISSCESWF*KESSVFLTFLLPFWPC DMPAPPLRLPP
6910	14961	A	7604	75	484	EIQLVLSLKTSLNKFKKIEIHSILSDHSGI KLEINSKGLQNHANTWKLNNLLNEH WVKNKIKMEIKTF/FELNDNNGTAYQNL WDTAKAVLRGKFTALNAYIKKYERAQT DNLRSHLKELEKQQT KPKSSRRKKK
6911	14962	A	7605	3	1105	
6912	14963	A	7606	802	1204	VLEVLTRAVRQEKEIKGIQIGKEEVKLLL FADDMIMYLENPKDSSKLLGLMNEFSR VSGYKINVHKSVALLYTNSDQAENQIKN SAFPTVV/SKKK*LND*IKYLGHLTKEVK DLYKENYKTLKESIDDISK
6913	14964	A	7607	3	419	RVECVVGLEYDRSAAASNTITQVVVTHI QALSHEQ/SAAYTSFSNKHESFSRIHLL GHKLGLNHF*NVGIM/PN/FSNPNRITLEI NTRSKTEKSTNLWKLNTLLNSQQSREE IPREKENT*NENENAAAQHLQDAAKAA
6914	14965	A	7608	1	341	RMGTVCVNPRSLKGFGRPGGKKKPKQSSP LKS/SPKMALMGGNPGGAPPFRFLFFNF RFPGPKSSSPAPIFFLKKGL*INFGPPREP GGFNQKPQFPSAPGFEPWNPPQGPKP
6915	14966	A	7609	1	409	
6916	14967	A	761	85	379	KKPKTKKRTGPVRQNVWRGRSLSPGRA PAEGPOGGSTESPLLVGRCLILGLREPG VPPAAYGRFLRDYMNISIQGKLEKQRPQ* GLPSLTGAELIKH

6917	14968	A	7610	3	644	GDQRDLISNNEQLPMLG/ERPGAPESQRP AOPSRDTRPPLPSPKIASPMCSLKKG*KA ITPMPLLPQSPKTPKP/VSKMRMATPLLM QALPM/DALPQGPQMKNATKY/GNMTED HVMHLL/TVLTCK/QEEVSHIPAVHPGSF RP/KCDENGNYLPQCYGS/TGYCWCVF PNGTEVPNT/KSRGHHNCSAPSPSPISHL LIP*DPGAWLFRHPGQDKPSRNSR
6918	14969	A	7611	1	1032	MHRRRSRSCREDQKPVMDQDRLISNN EQLPMLGRRPGAPESKCSRGALYTGFSL VTLLLAGQATTAYFLYQQQGRDLKLT TSQNLQLENLRMKLPQASIKPVSKMRM ATPLLMQALPMGALPQGPQMKNATKYG NMTEDHVMHLLQNADPLKVYPPLKGSF PENLRHLKNTMETIDWKVFEASWMHH WLLEFMSQPLPCSKSPLDAPPKVLTKC QEEVSHIPAVHPGSF/RGPKCGRGTGNY LAIPVAYWGASATC\WCCLFPNG/TREVP NTRSRGHHNCSSESLGTWKDPSFLGLGV LTK\QDLGPVPIVRASRGGLQHPASPTQL QLCSLQPPAPPPSPTL
6919	14970	A	7612	59	321	LSGSPLVTATSQVPLSRGKTGGPDPA/ SALPAPTSPISPPPSRSSLRRPRAPSGCP WGCPGSLQAPGLHWQDYRPGVRVRL PG
6920	14971	A	7613	1	464	DEEDGENAHPYRNSDPVIGTHTEKVSLK ASDSMDSLYSGQSSSGITSCSDGTSNRD SFRLLDDGPYSGPYCDQATLHTDFTSP YDTSLSKI*KGDIIDICKTPMRMWTGMV NNKVGNFQFIYVDVISDEEAAPMTIKAN RRSISILSKTLQ
6921	14972	A	7614	1	2119	LSFLDLNENDFLSNNIHTYQGKTLQGT YQAIKSGSDPVESMGTLKRLQKLWVTK KARVQNLDEVKPTLINLQDEDDTLISCL KLTKSREKKVNSVSTRKEEMEIRLDL SASLGRSSTLNNCNLEDKLAWEYGEAY MWHHWKPPENPLWTCLDFQIAQVGPW DHCSSCIRHTRLKSSCSMDLLHSWVTL CRQESSNITCWTKLREKRGDLFCILFVCF IDRKTPRKFSDDQALEILKIGRKQKVHSL GVVRIQNAQEKAIQCFREGETSKTKEYE SVIKFYPKQRSSSFGNFRNNSLSKPD DSTEAEHGDPTNGSGEQSKTSNKEAVW GKKMRAISWTMRKKWGKKYIKALSEE KDEEDGENAHPYRNSDPVIGTHTEKVSL KASDSMDSLYSGQSSSGITSCSDGTSNR DSFRLLDDGPYSGPFGRARVHTDFTPS PYDTSLSKIKVIGEQQCLVTWKGDIIIC KTPMGMWTGMLNNKVGNFKFIYVDVIS EEEEAPKKIKANRRSNSKSKTLQEFLE RIHLQEYTSLLNGYETLEDLKDIKESH LIELNIENPDDRRRLLSAENFLEEIIQE QENEPEPLSLSSDISLNKSQLDDCPRDSG CYISSGNSDNGKEDLESENLSMDLLTDP LQLSPQLPQRGAGNINRRKTGFSLGHGK LNKEQRKDKRLIQGWEVAELGPSAAF G
6922	14973	A	7615	3	452	
6923	14974	A	7616	1	475	PDSSGPHRLRENPPMVAVSCPTKTNVKG PPGGKVGAAHAAQYGAELGRNIFLSFPT TKTYFPHFDLASHGSAQV*GATGKKVAD ALTNAVAHVDDMPNVAVRP*SDLHAHK LRVDPVNFKLLSHCLLG*PWAHLPRPS FTPCGGTPSLEQSSWASC
6924	14975	A	7617	26	461	WESCGPHQRTG*AGSSRCGWRRRAAGP GCHQPRAGVPGRTRCAGRSPAADAAGR CWLGGPPPPGCGPRCLR*CAGHPPAGSA RVWSVVAGASTGLGRLWGRRWSPSCH RCQSPGCQAGRRGTARLSWPLSRRTSCR

						IPAARVYPR
6925	14976	A	7618	3	419	LLDPSDGKSCGPTSKDCRRRIRQYSVEA LPRPALPHTRGSGRKEARGEQSGAGA PADPDKLEAAVAVGEDVQQAPGCHQPR AGVPGRTRCAGRSPATRGTRDGT/QGR AGPATVPIPPGPWGGPTCRRCRTLLARR S
6926	14977	A	7619	2	227	AGVFCDAGLTFTSSSGQQTAAQRAELLC QPAALRRRSEPFVHLLDISGEYLLGTFY YCVENLRDGPCVVADAV
6927	14978	A	762	209	393	WAVYCTSFMLS*CYKI*CKPALSLGI*T TEVKTYVYTNRCCEMSTSALLIVAKN*K HSKC
6928	14979	A	7620	11	394	SEFCDWVADLDVQKYEQPS/HEALTS MGSTEARVDYMGSSILMGIFSNADLKLQDE WKVNLNTLDSSITDKSEIFVHGDWKWD IFQVMISRSTTPDLIKIGMKLQEFFTQQFD TSTRALSTWGPVPYL
6929	14980	A	7621	3	185	FFFFFFER/CPTLAQARVLWCLHSSPQPQS PW/VSSNPAS/ASQAAGTAGMCHRAWLL KTEVGDL
6930	14981	A	7622	1543	1744	FVKSKALAFFLSFFFFFFLQSLSVTQAG VQWPVDSLQPLPRFKRFSCLSLPSSWD YRCVPQCPAN
6931	14982	A	7623	1	259	SENQEQUEEVITVRVYDPRVQNEGSWNSY VDYKIFLHTNSKAFTAKTSCVRRRYREF VWLRKQLQRYAGLVPVSELPGMTLYG LY
6932	14983	A	7624	3	265	CCHPRLACSGMILAYCQSRLPGSKRFP CLSLPSSWDYKQPCHHTRILVFLVETG FHHVGQTGLE/MLRNSGDPPTLASQKCW DYKA
6933	14984	A	7625	2	375	RAALTPTSTYKGAPSPK/GAPHSTAGVTS A SPKEAPTTPAVTPPSPEKGPATPAPKGP TSPPTVTPSSLKDSPTSPASVTCKMGATVP QASKGLPAKKGPTALKEVLVAPAPESTPI ITAPTRKGPQ
6934	14985	A	7626	2	425	IFPPPKRGFFSKKKGVVFNPPASSSRFFAR PPPGVGPPPQVSSSSSPFYFYASSSSYSS SSNFPS/HSSSSSSSSSSSPRQOHPHLYPHC RLGWAERAW/PPGTPLYHYKTQRKQGT SASPGRGTTCHTPQSPPLPGHHRCPW
6935	14986	A	7627	3	253	
6936	14987	A	7628	48	557	AGLGKARLAPGTPLYHYKTQRKQGTSA SPGRGTTVTQRGHYQNAQGRTLQPPPC GQQTSGH*GPGWPYESQRLWKTPQRS* Q*FLHPPPR/HCHTPACGAASAPCVGRY CPRCSCAPARSASLAALTRETAPLLSPS WAPGDPTLEGWPGNGSPLPRGM*PHL YPHCRLGWAKRAWPRGHHCITIKPRGN KEQVQVRGEGPLSRKEVTVIKTLVVHF SHHLAASKPAAIEGLDGLMSLRGYGKLH KDLDNDFCILLALPHSCLRSSFCITMCR ALLPEMLMCSCSLISGRSDSGNSSSSSFS FLGSRPHVGGGLAREWFTPTGEDVTGI EDGL

6937	14988	B	7629	122	1028	MENGQSTAAKGLPPLTPEQQEALQKA KKYAMEQSIKSVLVKQIAHQQQQLTNL QMAAVTMGFGDPLSPLQSMQAQRQGA LAIMCRVYVGSIIYELGEDTIRQAFAPFG PIKSIDMSWDSVTMKHKGFVVEYEVPE AAQLALEQMNSVMLGGRNIKVGRPSNI GOAQPIIDQLAEERAFNRIYVASVHQD LSDDDIKSVFEAFGKIKSCTLARDPTTGK HKGYGFIEYEKAQSSQDAVSSMNLFDLG GQYLRVGKAVTPPMPLLTATPGGLPPA AAVAAAAATAKITAQEAVAGAAVLX*
6938	14989	A	763	348	638	VQGKPWGMGRAVCPAGPVRLEERPVC GTPCLCLHPARMTPAWGSIHCLPSHGGC PCLPVNAPSWLGGQSPWARALLQ*WVV LGAEGHLPTLRITTVG
6939	14990	A	7630	3	407	KSMTEAEQQQLIDHFLFDKPVSPLLLA SGMARDWPDARGI/WIETLFKSKDYEFM WNPHLGYYLTCPNSLGTGLRAGVHIKHE KFSEVLKRLRLQKRGTTGGVDTAAVGGV FDVSNADRLGFSEVELVQMVVDGVN
6940	14991	A	7631	1	170	
6941	14992	A	7632	1	411	SYEVFKELFDPIISDRHGGYKPTDKHKTD LNPNLKGGDDLDPNYVLSSRVRTGRSIK GYTLPPHCSRGERRAVEKLSVEALNSLT GEFKGKYYPKSMTEKEQQQLIDHFLF DKPVSPLLLASGMARDWPDARGI
6942	14993	A	7633	2	1250	LPTDGAPPPPPGRPPAAAMPFSNSHNA KLRFAEDEFPLSAHNNHMAKVLTPEL YALRAKSTPSGFTLDDVIQTGVNDPGH PYIMTVGCVAGDEESYEVKDLFDPIED RDGGYKPSDEHKTDLDPDNLQGGDDLD PNYVLSSRVRTGRSIRGFCLPPHCSRGE GRANEKLAVEALSSLDGDLAGRYAL KSMTEAEQQQLIDHFLFDKPVSPLLLG LGHGRRNWPDARGIWHNDNKTLVWV NEEDHLRVISMQKGGNMKEVFTRFCT GLTQIETLFKSKDYEFMWNPFHWATSL PCHCNLGTGLRAVGLHVKLPNLGQGM KFSEVLKPAELSKSRPPGGVEHGLR WAGVDFVFTLNRPGPSQSVELVQMV VDGVKLLNEMEQRLEQQQAIDDLHAW PKK
6943	14994	A	7634	1	175	EQLPYFVTFISMPATT/EGRRGFSLSVESA CSNYATTVQVKVVRNMHISPRALGTLH HN
6944	14995	A	7635	1	83	
6945	14996	A	7636	61	2028	
6946	14997	A	7638	517	1038	NKRIYNMMISSRRVISLSPVLLQIFDCP RLKFSEIPQRLTALLPPDPVINVHVSEV APACFSDQGMISFLPSLPLPLPSLLPP CWICPSGALGPVWGHRGHEGLDFPGSV DPSDQKKTACYDIDVEVEEPLKGQMSSF LLSTANQQEISALDSKVGPKPRAGVGH
6947	14998	A	7639	154	1594	LSRCRTLPSMTPLGHPPTVVQRPMP GARMPHQGRPWAPRAPRTWAAPPCDPA WPPRDGARQASSAPARQSQAQSQGQP EPTAPARSRSARRKMAKILPQRIRELV PESQAYMDLLAFERKLDQTIMRKGVDIQ EALKRPMKQKRKLRLYISNTFNPAKSDA EDSDGSIASWELRVEGKLLDDPSKQKRK FSSFFKSLVIELDKDLYGPDNHLVEWHR TPTTQETDGFQVKRPGDLSVRCITLLM LDYQPPQFKLDPRLARLLGLHTQSRSAIV QALWQYVKTNRQLQSDHKEYTMDGK YFPQNFDCPRLKFT*IPQRTAVLMPP DPVINVHVISVDPSPDQKKTACYDIDVEV EPIK/GGQMSSFLSTA/NNQQEISALDS KIHETIESINQLKIQ/RDFMLSFLRRPHKL CARTWLRSQEPGTSR*LTDVAGNPEEER

						RA\EFYHQ\PWSQEAVSRYFYCKIQASA GKEAW
6948	14999	A	764	746	1280	ISHMELQFGAIFAEILFRGPFHHLHNINFT WASCCPHASQPGRQRGSSWNEYHSFRE FNQEKEIWRAGESAPLPLAGAAACPW RGGASNPICVTGASAAGGRAGGSGEET GSAPGAACSST*ESYEAFGFSSSPGNSV *TFSTSSTYTASPPTSPSPSVSPSPPCYYYS SSSSL
6949	15000	A	7640	256	426	HPICPQTTKAFLPRMLELQNGHIVCLNSV LALSAIPGAINDYCTSEADFGFMESLT
6950	15001	A	7641	1	985	RIARPGEFRPLPGSAARRMAWKRLGALV MFPLQMIYLVVKAAGVLVPAKLRLDS RENVLITGGGRGIGRQLAREFAERGARKI VLWGRTEKCLKETTEEIRQMGTECHYF ICDVGNRD\EVYQTAKAAREKVGDIILV K\NAAVV\HMGKSLMD\SDDDAFLKAQ\ NINTLG\QF\WNHQPFGKLCWKQONGP H/LVCLQLPLLGI\LA/LPGAIDYCTSKA SAFAFMESLDPG/VLAGTCPGV\SATTVL ALSTTSTEMFQGH*EFRFPNLFPLK\PET VARK/TQVEAVQLNQALLLPWTMHAL VILKSILPQAALIEIHKILKETYNLE
6951	15002	A	7642	1	376	KQAASNQLDSLMLGLG/DSHPVEERGILC EFCGVQLFYDVLVHYQDQWDLRPGTAF FRVTEGIPRLHSQAQETWPEL/PLRRVRR QENLSSGYLDDTLLETANGPTFCPLPARPF WNNMTATYNQLSRS
6952	15003	A	7643	1	2753	MKEFSSTAQGNTEVIHTGTLQRHERHHI GDFCFQEMEKDIHDFEQWKEDERN SHE APMTEIKQLTGSTNRHDQRHAGNKPIKD QLGSSSFHSHLPFLHMFQTEGKIGNQVEK SINSASLVSTSQRISCRPKTHISKNYGNNF LNSSLLTQKQEVHMRKESFQCNEGSKAF NYSSVLRKHQIHLGAKQYKCDVCGKVF NQKRYLACHRRCHTGKKPYKCNDGKKT FSQELTLTCHHRLHTGEKHYKCSECGKT FS
6953	15004	A	7644	1	149	DSFGASRFLRIHAENTYFTLRAFYAESRCI EALDELASLQVTMHQAQKHT
6954	15005	A	7645	81	331	KGARFLLILYLDAFLFNLDLFFLEYPS YFLLCFCSLLFFFCFCHFSLYFFVCRPSSS LFSSSILLILLFVLVRLLFCFL
6955	15006	A	7646	701	1114	ATRHSMLSCHYTYTYIKHTHTHVFYIYIT YTYIHTHYTYTYICHTHIHIYIYIYIHT FFFFFFFETESRSVTQAGVQWHDLGSLQ AASWGHA/DSPASTSQAAGTTGAHHHA Q/LIFFFFVFLVETGPHRASQDS
6956	15007	A	7647	1	207	RSVFRERGGKLSAG/SLVERLYRVRFRDRF ERILKMARKAVETHVLRSPHLVSDYRDS IIPSESLALPC
6957	15008	C	7648	244	432	
6958	15009	A	7649	898	1144	IFQLLLMEGPANIIGNTGSSNTGRSNTGP SNQSSYLISFLFLFCFFETESRSRPGGLGV QWAWISGSLQALPPGSTPFSCLS



6959	15010	A	765	1	493	KGPVSKEPRSGMNRNSALRVNVRPLRPC PQEGGLPLQSCVPPLGLCRVPSRGKQPK HLLPTG**AIAGLPNLHVIDFIPLKLSFGL* GVPQGGPPLGRGPQSQSLVTQAPMGG GPRKGLPIDRPE*GACTLGPWAAPVPLS SKGPFPTVGPRLSDSFSAR
6960	15011	A	7650	1	476	ATRELVTSSGLRRKTGLWARPKEKPTA WHLASLSRPDELVRNPQEPQPGPREEGS LGHVARTPAPGGGGQRHLSRAGHSRPG RRFKATLW\SEEHPLSLGDQVTPHIDLM AISNAHFAKLRFITLRLPPGFVPKIEIPL FHVNLARIHLSGNLCGC
6961	15012	A	7651	1	1071	
6962	15013	A	7652	2	240	SCSIGSFQFG/YYPGVINAPETIIKKFINK/S LTAKANAPPSEVLLTNLWLSVAIFSRRG YESASLFPSSGLFVNRFQVLT
6963	15014	A	7653	2	391	QTGRGMWCSLVFLILPATPRKQSEPK TTDAAAPGTADTAGPGTMDTAVPRKAE TAVPGKRNTAVPGTADPASPGTADTAEP MRTTTPVLAWSPLTQSTKAPSPRLLP APSPGSCSATSTSCSRSP
6964	15015	A	7654	1	200	
6965	15016	A	7655	3	416	CLFPVQLLLDHGADPNQRDGLGNTPLHL AACTNHVPVITLLRGGSGFFPSLSSFSF SPPECSPQLVPAGARVDALDRAGRTPLH LAESKLNILLEGHAQCLEAVRLEEKHHH MLKEHLELLGRHYQLINAWMTLD
6966	15017	A	7656	1	395	KVQSRCSSKENILRASHSAVDITKVARR PRMASFALTSMDFKAFITVLEMTPLVLT IINYRYGMARGLVQYVVSDDIVFSFLSL LYEYFIRSFHLSLFIYLSLRSFFKLRESF FCFSSIFLSSTFALS
6967	15018	A	7657	210	441	LNPILYSPGRDHRVQNFHLPRLCIQKLP KSKCFIYELPAHRKKLVQLEPLTDDLE PDFVRQVTEMSYIFSHSMI
6968	15019	A	7658	8	399	RVGVAGPAPWWLRVSLGGRDFHTPISV TKVAERGKAEDADLRPGDIHVAINGESAE GMLHAEAQSKIRQSPSPLRLQLDRSQAT SPGQTNGDSSLEVLA TRFQGSVRTYTES QSSLRSSYSPTSLSRA
6969	15020	A	7659	2	260	WEPPWPGPVLGLPLPPLPPSPSPPLPPP PRGCSLGASSA/WTAWVSSPKEPVRPQE PPPGEGSNENHRRKWHPPFSVMLKSCY
6970	15021	C	766	82	201	MKSKHFINLISRQHKNYNLIYTFIRSDF KTAIFLSILS*
6971	15022	A	7660	2	442	PRVRVYYFRQGHEAYVEMARKNKIYSI NPKKQPWHKMELREQELMKIVGIKYEY GLPTLCCLKLAFDPDTGKLTGGSFTMK YHDMPDVIDFLVLRQQFDDAKYRRWNI GKGE/CSDRFRSVIDDAWWFGTIESQEPL QLEYPDSLQ
6972	15023	A	7661	965	1232	TGVQWPDLSLQPLPPEFKQFSCSLLR GWDCRRPLQLADFCIFSRDGGYCYVG QAGLKLLTSN/DLPASASQSAGITGVSLC TQPKSS
6973	15024	B	7662	111	374	MVAAATGSEILLWALQAEAGGGSEIGDSG NWIEIAYGTSLGGVRVIVQHPETVGGSP QLLQFTTVHRSPVTKIMLWEKHLISVCA DNNH*
6974	15025	A	7663	387	545	

6975	15026	B	7664	181	4716	MGRPAPAVPRPARPATPPAWTAALPAG RPRGDPGFRAFLCPLICHNGGVCVKPD CLCPPDFAGKFCQLHSSGARPPAIPGL TRSVYTMPLANHRDDEHGVASMVSVHV EHPQEASVVVHQVERVSGPWEEADAEA VARAEAAARAEEAAPYTVLAQSAPRED GYSDASGFYCFRELRGGEASPLPGLR TQEVCCRAGLAWGVHDCQLCSERLGN SERVSAPDGPCPTGFERVNGSCEDVDEC ATGGRCQ
6976	15027	A	7665	209	1288	EEKNERRDRDTERKGEARTSKTSQKRET KETTGGKTKQKRKKEKTTDKKTKRKKR TSKTEENKKRKQEKEDRERDESTKRRKE GERERRGNARRRKKGGEHSKKRGERRN NSKGEGEEERGRKTKAKTRRTRQATNT DSKNEKGRKGKGQTRARRPAETGRRRR KRKRQRKAGETTPGETGRWCASVRSVD GSPTTAFTVLECEGSRRLGSRPRRYLLN CQANGSLAMWDLTTAMDGFQAPAGG LTEQELMEQLEHCELAPP/R/CASSSLNG AVSPSPSPRISLT/NASTQASSNTSFVWPT VGSPKPPARLKARRRGWGEALWKAAR NWCVGQTSDBGHPQAPWPSKRSRHS HTFQE
6977	15028	A	7666	3	1703	GGRRAAALGVAIGAAGAAARAAAWTGP ARRASPRALHPGRVPRALRPWADRLPLY PDLRAPQRHQRGQRRSRRGGPGGTRLPR LVPSEAAEPAQPSGASARRTAQPLSDG ATRCPTLAMHGCWAECWMRKPLPHPQ VRFYLVGQPEEPGMVRLVCGHHNWIA VAYTQFLVCYRLKEASGWQLVFSSPRLD WPIERLALHVARVHGGALGEHDKMVAA ATGSEILLWALQAEAGGSEIGVFHLGVP VEALFFVGNQLIATSHTRIGVWNAVTK HWQVQEVQPITSYDAAGSFLLLGCNNGS IYYVDVQKFPLRMKDNDLLVSELYRDP AEDGVTALSVYLTPKTSDSGNWIEIAYG TSSGGVRVIVQHPETVSGSPQLFQFTTV HRISPVTKIMLSEKHLISVCADNNHVRT WSVTRFRIGMISTQPGSTPLASFKILALES ADGHGCSAGNDIGPYGERDDQQVFIQ KVVPASQFLVRLSSTGQRVCSVRSVDG SPTTAFTVLECEGSRRLGSRPRRYLLTGQ ANGSLAMWDLTTAMDGLGR/SPAGGLT EQELMEQLEHCELAP
6978	15029	A	7667	8	566	TLVTVGNSQGREGLAFLVSCPEGRADCA SESACSSDSLDEARSSGSEGTADTGDLS PGHGASAPSVSREARQTVPLTVRLHTQ SVSECITEDGRTVAVGDIVWGHRR*GRT CWPGASDLCSTL*AFWPAACRAHWA WSAWCEVPRGPAVCSGRGT*AQRLLP LSVFVPTTQMAALAHEAV
6979	15030	A	7668	2	610	SPEILVDPRLRPRVRLAFLVSLVGRADC ASESACSSDSLDEARSSGSEGTADTGDLS SPGHGASAPSVSREARQTVPLTVRLHT QSVSECITEDGRTVAVGDIVWGKIHGFP WWPARVLDISL/WPEGGRRAVLARIRKV SWIGSPTTSFLSISLSPFSEFFKLRFNRK KKGMYRKAITEAANAARHVAPEIRELLT QFET
6980	15031	A	7669	3	392	ADAAVPTRCVTSGHSLPISGHAAESELFH R/P/AGIILPSRRNVLPARGASSTRARPLE RPATPVVAPSSRAARSRHIDPLLQSSSPT PPGPTGSAAVAVPTPNSSSPGAPRPA GAMLYHSWVSEITE
6981	15032	A	767	88	372	QGMDSKRRGVKLNDDGQFMPVLGFGTY APS*VPRSKALEVTCLAIEPGFRIDSGH LYTNEEQAGLAILNMIADGCVKREDIFY TSELWATFY*PE

6982	15033	A	7670	5	393	GFRNPPRDSHHPHSTRRRRAFLRRWEKD PGRGKGRAPEPAQQRDASPPTRRPLEGP/ PREHLRQWERLPFPKSPWKEVFAFVSAN KACSALSGPVAPVETAAEPSPPS/PRVRG RSGPRTKGARPRNRCCDD
6983	15034	A	7671	2	399	ARTNTGGRPYCFIRMSNLIHRTQQGYN NPRPLSTNIILSDIQTETKLRPYQISMCE LGSAGVTSAFSADCKGAEKISSGHQRL EPATLSGIA\GFILSLLWGALNLIPGFHAI QRLQREGDDFNSFIALF
6984	15035	C	7672	151	339	MSTFPIHISPKLRGDDVVRGRXLXWRWPL RGFCATVRWCPPGAAGWCAXPVRAESA FXRPAKS*
6985	15036	A	7673	19	443	SVRWNSCRAEAPQWPAPAAAPAAHSPH LSLGEGLGKLILINSLFLTDLYSPEYGP SQRIKKPVQVYILVFLIDDKLE*Y*YTQST CCNFHYAS\QSWQPAINYIDSKFEDYLN ESRVNRCQMPGNRVQGCPLYFIAPSGH
6986	15037	A	7674	152	532	QALRANRPAPVAEGATDRDTVAQKLLNG QRQLQPRPPTRLI*AWVEQSKVLIDGG VQLLLTIVDTPRFGDAVDNSNCWQPVIN YIDIKFEDYLNESRVNRCQMPGNRVQ* *LYFIAPSGHGPHN
6987	15038	A	7675	1	627	GSARSAAEERSVNSSTMVAQKNLEG YVGANLPNQVYRKSVMRGFEFTLMVV GESGLGKSTLINSFLTDLYSPEYGPSPH RIKKTQVEQCGVLIKEGGVHLLLTIVD TPGFAGDAVDMSNCWQPVYIDYIDSKFE DYLNESRVTRRQMPDNRVQCCLYFIA PSGHGLAKPLDIEFMKRLHEKVNIPLIAK ADTLTPEECQQFK
6988	15039	A	7676	2	371	VLELEERALLREARLGRARSSGGMQATP ATEGLARPQAPSSSAFRCPYCKGKFRTS AERERHLHLHRPWKCGLCFSGSSQEEE LLHHTCQVCGQSFTQSWFLKGHMRKH KASFDHACPVCGR
6989	15040	A	7677	44	983	RGSMEGSRPRAPSGHLAPSPPAFDGELD LQRYSNPAVSAAGSLGMAVSWSESRA GERRFPCPVCGKRFRFNSILALHLRAHPG AQAFQCPHCGHRAAQRALLRSHLRTHQ PERPRSPAARLLLELEERALLREAPTGES PKLRGHAGHPLPLMVW/PRPQAPSSAF RCPYCKGKFRTRLERERHLHLHRPWK CGLCSFGSSQEEELLHSLTAHGAPERPL AATSVAPPPQPPQPPPPQPEPRSVPPQPEP EPEPEREATPTPAPAAPEEPPAPPEFRCQ VCGQSFTQSWFLKGHMRKHKASFDHA CPVCGR
6990	15041	A	7678	1	582	GNAGLSSLTEGVLDLFAVKAVYMGHPGI DIHTVCVQNKLGSMFLSETGVTLTYGLQ TTDNRLHLHFVAPKHTAKMLFSGLELTR AVRKMRFDPDQRQQWLRKQYVSLEYQE DGRYEGPTLAHAVELFGGRRWSARNPS PGTSAKNAEKPNNMQRNNTLGISTTKKKK KILMRGESGEVTDDEMATRKAKMHKEC R
6991	15042	A	7679	2	428	SVGSESDSSKEGPSMTRSGPLRRRAVP G/PEESQGNLTVIRVVIHDLQQTCKIRFNP DATVWVAKQRILCTLTQSLKDVLYGL FQPASNGRDGKFLDEERLLREYPQPVGE GVPSLEFRYKKRVYQASLDEKQLAKL HTK
6992	15043	A	768	177	311	WFQNPCYYYLFFLETESLSPRLERSGTVS AHCSL*LPSSSDSPAS
6993	15044	A	7680	1	248	VIFLVNSGSEANELAMLARAHSNNIDII SF/RTMCPDVFRGPWGGSHCRDSPVQTIR KCSCAPGPTGQGGCQWSVGSWKGHE
6994	15045	A	7681	1	501	

6995	15046	C	7682	60	380	
6996	15047	A	7683	3	649	LSPSYFHSISFPHSLFLPLEGTVTRNRELW GLLQAMGVHHSRIPLLAPPHLNLKVQQ DSEQLEPGLQSASMGVGFSLGRNDSNLE TFAETLVPGSIPLPGILEMHPFLSLGTSRT SVTKLSLHIKPRMPPCDFMPERYQVIFLV NSGSEANEALAMLMARAHSNNDINSFR GAYHGCSPYTLGLTNVGTYKMKLPGG TGCQPVSLEIFLLFL
6997	15048	A	7684	27	211	FHIVQYFNFFVCLFVCLFETESTLSPRLEG SGVISAHCNLTLPFGFNNSCASASRVAG TTQ
6998	15049	A	7685	1	310	RPRRRGDHREVKGGRGGKGGEGRPQGG QRWAVGKGGEGRPQGGQRWAVGKGGE GRPQGGQRWAEKGKGGEGRPQGGQRIGQ WGKGGEGRPQGGGERGPGGKGGE
6999	15050	A	7686	2	320	KYVFTDISYSIPHRERFIVREPSGTLRKA SWEERDRMIQVYFPKEGRKILTPHFKEE NLRFEPDSTEYIKVHHKTYEDIGKRGKY DLLRSTRYFGWEWVWVFC
7000	15051	A	7687	22	1071	GVLRAWNGSVSGLESSPGTVACSNRYL ALSRWGCHSRINSYGAESGSPETKKPT FMDEEVQRVLTKMTGLNLQKTFKPAIQ ELKPPTYKLMTQAQLEEATRQAVEAAK VRLKMPPVLEERVPIINDVLADKDFWK GTETTKYVFTDISYCIPIHRERFIVREPS GTLRKASLEDNRMIQVYFPKEGRKILP PIIFKEENLRTMYSQDRHVDVNLCAQ FEPDSTEYIKVHHKTYEDIDKRGKYDLL RSTRYFGEMVWYFVNNKKIDGLLIDQIQ RDLIDDATNLVQLYHVLHPDGGQSAQGA KDQAAEGINLIKVFAKTEAQKGAYIELT LQTYQEALSRHSAAS
7001	15052	A	7688	2	383	FSAPAASEPLPFGPPPPSEPLPFGPPPSDP LAFAAPPSEPLTFSGPPPPSEPLTFSGPPP SDPLCFTAPPSEPVFSGPAPSDRLPFFG PTTSEPPNRPGMPTQPHPICLSKNTPLPE PTRLHP
7002	15053	A	7689	3	2484	PAIKIRRRRVRDLQDPPPPQMAPEIQPPSH HFSPEQRALLYEDTLTYVLHRLGHPEPN HVTEASELLRYLQEAHFVEPEEHQQTLO RVRELEKPIFCLKATVKQAKGILGKDVS GFSDPYCLLGIEQGVGVPGGSPGSRHRQ KAVVRHTIPEEETHRTQVITQTLNPVWD ETFILEFEDITNASFHLDMDWLDTVESVR QKLGETDLHGLRRIFKEARKDKGQDDF LGNVVLRLQDLRCREDQWYPLEPRTNES YPDRGQGHLLQQLVHKRRATSASRSQP SYTVHLHLLQQLVSHEVTQHEAGSTS/W GRVAESQAATVFLHATQKDLSDFHQS MAQWVAYSRLYQSLEFPSSCLLHPITSIE YQWIQGRLKAEQEEELAAFSLLTYGL SLIRFRSVFPLSVSDSPARLQSLRLV QMCKMKAFGELCPNTAPLPQLVTEALQ TGTEWFHLKQHHQPMVQGIPEAGKA LLGLVQDVIGDLHQCQRTWDKIFHNELI SSTLKIHLFSMAFRELQWLVAKRVDHT TVVGDVVSPEMGESLFQLYISLKELCQL RMSSSERDGVLAALDNFHRWFQPAIPSWL QKTYNEALARVQRAVQMDLVLGELT KHSTSAVDLSTGFAQISHTARQLDWPDP EEAFMITVKFVEDTCRLALVYCSLIKAR ARELFFRARRTKARAANMLCVVNDME QLRLVIGKLPALQAWAELEQRVGAVLE QGQLQNTLHAQLSAGALAGLGHENRTG VRTLAEVQLEVGIKHIQKLVGVRESVLP EDAILPLMKFLEVELCYMNTNLVQENFS SLLTLLWHTLTVLVEAA

7003	15054	A	769	193	363	IPLALSTGNGTLLFFF*DRVSLLSPTLECS GVISAHCNLCPLGSSYSALASQVAGI
7004	15055	A	7690	31	510	GDHASDKETITIVNIYAPNIRACSKYIKQT LTELKGEVDSNVITAISILRFQQLPTLIKT ESLRNRNNSSSSSSSSS/PSSSSSSSLKSLP TKESIGPDGFTDEFYQTFKEELK/PKSSSS SSSSSSSSSSSSSSSSSSSSSPEKDATRE ENYRPISL
7005	15056	A	7691	2	189	TYHIDRIKDKSHMIISATEKAFDKIEHPF MIKALSQLEVVGMNTNVIKAIYKKS MANI TQQ
7006	15057	A	7692	3	409	NTANRAARVSASIEDSPDNSETLPDES RNGENAKRFAIDIGGTLTKLAYYSTVQH KVAKGRAFDHSGKDTERDTSRPMRVQF KKRALLDGTSLRRRKPTPKPAWTSSKTIS STORP/EVIQATGGGAYKVKDLI
7007	15058	A	7693	88	480	KEELYGDFEDLET/G/DVHKGKSGPDTQN EDIEKQDEIDPDEKKSAKKKHLDKRRKL KEMLDAEYDEGESTYFDDLKGEMQKEA QMRLLKNHRWYKKILKSQDPIIFSVGWRR VHTILLYYIEDHNGRQRLKY
7008	15059	A	7694	1	1068	MAANRKDFIHRRCGPESQSEAVPQGLC RAERSSALAMLSGSVPRRTQLRPGKGTQ RRCRRGGGEADSGGEAVGGGAERRSAA ARRRGRRRGGEAVGGGAERRSAA ARRRRGRRRRGGGEAGGGGAEEARR AAAAARRAAAAARRAAAAARRAA AARRIAESGGEAHSRGEAHSGEAHS GG AGAERRRRLHSPALKTHPGQSSEGHVE YKLNHVEFEDQDDEARVQYEGFRPGMY VRVEIENVPCFVQNFDPYPIILGGLGN SEGNVGHVQMRLLKKHLWYKKILKSQD PFISVGGRRFQTIPLYIEDHNGRQRL KYTPQMHCGAAFWGKI*LQ*LAYCRD
7009	15060	A	7695	66	844	KEELYGDFEDLETGDVHKGKSGPDTQN EDVEKKEEIDPDEESAKKKHLDKRRKL LKEMFDVEYDEGESTYFDDLKGEMQKQ AQITAYRFPPTPSCTLNHAEFEDQDDE ARVQYEGFRPGMYVCEIENVPCFV*N FDPYPIILGGLGNSEGNVGYVQVGPFA AYLVPEALWISPPSIILPSHPPQMRLLKH RWYKKILKSQDPIIFSVGWRRFQTIPLCYI EDHNGRQRLKYTPQHVRG/AAFWDKI CLQ*LAYC
7010	15061	A	7696	1	1177	LRMRLGTRSALWACRGWGQQHMAW LTEQPLGVLFPPELYGDFEDLETGDVHK GKSGPDTQNEIDIEKEVKEEIDPDEESA KKKHLDKRRKLKEMFDAEYDEGESTYF DDLKGEMQKKAQLNHVEFEDQDDEAR VQYEGFRPGMYVRIEENVPCFVQNF PHYPIILGGLGNSEGNVGYVQMRLLKHR WYKKILKSQDPIIFSVGWRRFHTIPLYIE DHNGRQRLKYTPQMHCGAAFWGPIT PQGTGFLAIQSVASGIMPDFRVAATGVVL DLDSIKIVKKLKTGFYKIFKNTSFIKG MFNSALEVAKFEGAVIRTVSGIRGQIKK ALRAPEGVFRASPEDKLLMSDIVLMRLS TCSIPA/FY/NPVTSC*TIGEKHLVRMRP P
7011	15062	A	7697	163	371	KGTTKL VVKLSDFKSYFKAIVIKTVRN/W HKYKHIDQWNRIQNPEINPHIYGQMIFK KRAKNKQWKDGL

7012	15063	A	7698	270	1479	PGCAFSSSGTSRQLAPVLGYLGSROKHS LPDLPYDYGALPHINAQIMQLHHSKHH AAVYNNLNVTEEKYQEALAKGRFQAER EKNVVCTFNF*GDVTAQIALQPALKFNG GGHINHSIFWTNLSPNGGGEKPGWIYCA PLSTTSCTVGIDVISWAL*QKIF*IHVI*HF TVIIGNLFICGWFWDFFFNRLELEAIKRD FGSFDKFKEKLTAAASVGVQSGWGWLG FNKQRGHLQIAACPNQDPLQGTGTGYI*IG LSVVPVWKTSPLLKNVDSKVKGKRTVY QGDGHYVNHHPNQVFWGRGAVKALNR NLKGAPDLELDGESRANCGEKGREESER SGR*AWQLCSVTGAPFFLTGLIPLLIDV WEHAYYLQYKNVRPDYKAIWNVINW ENVTERYMACKK
7013	15064	A	7699	94	330	KRSRYKKMCLHFNFSGDVTAQIALQPAL KFNGGGHINHSIFWTNLSPNGGGEKPG WYILVHPYLFVHSRNRLLIYWR
7014	15065	C	77	183	350	MYGLPGFFYAHXXXXXXXRXR HAPALRVNTRSHSPTGGRVALPQPWL MV*
7015	15066	A	770	260	360	SPN*SPNVIFDS*DSPEKTAATVRGDFYV TGDRGMMD
7016	15067	A	7700	33	807	GPRAAQERHSWLWWLRQLQOIGGISG STSTSSMLSRVCGTSRQLAPVLGYLGS ROKHS LAPDLPYDYGALPHINAHIMHLH HSKHAAAYVNNLNVTEEKYHEALARG DVTALQALQALAKFNGGGHINHSIFWTN LSPNGGGEKPG/EELLEAIKRD FGSFDK FKLEKLTAAASVGVQSGWGWLGFNKER GHLQIAACPNQDPLQGTGTGLIPLLIDV WEHAYYLQYKNVRPDYKAIWNVINW ENVTERYMACKK
7017	15068	A	7701	2	436	SGRGASLRPGVRPPSVSWEPYSGPGSTPP PPSSRSKDVGKPAQSWVRGGSTQNTGQ LPKEGLSTPHVPVPRAGIPSSRQALLSSGN PGTRAPSAPALRPEAQASPAEFGAP/SPE LGGERLGGARFQEPQPAAASFPGAAAT QA
7018	15069	A	7702	1	389	PGSSRQRCWHQPCFACQACQALINLIY FYHDGQLYCGRHHAELLRPRCPACDQLI FSWRCTEAEQQRWHENHFCCQDCAGPL GGGRYALPGGSPCCPSCFENRYSDAGSS WAGALEGDAFLGE/HWKVTHSLGRLDS TN
7019	15070	A	7703	1	1217	MGGHLANVPTGTSLQQTGLMEKHFTSG KQLLKTQNNIPQTTERTHNGWHQAWL LVFSCVRSFYVAALFAVGLCGIHWFC AVFSVCAGHSTAVVSLPGSQHLSANM FVALHSYSAHGPDLDLQKGEGRVVLG KCQDQWLRGVSLVTGRVGIFPNYVPI FSTPSQLSGCREVGPTLVKPVVHKMGVY GWEEGSISEGD/HGKAVPSNPS/VVPTAIV NPVRSTAGPGLGQGSRLKGRSSMRKN GSLQRPLQSGIPTLVVGSLLRSPT/MGPS ASAVPILPATGDPLPLSRGGGDGVQA/S PSRGSPSRASAGAVRPGSTPRPAPSLWK TKKSPSRVS/LLPKPPASAPPSILVKPENS RNGIEKQ/DQNREISEIQALLPPNITLPYPT SGKPEQPSLPQCVPA
7020	15071	A	7704	27	211	FHIVQYFNFFVCLFVCLFETESTLSPRLEG SGVISAHCNLTLPPGFNNSCASASRVAG TTQ
7021	15072	A	7705	27	211	FHIVQYFNFFVCLFVCLFETESTLSPRLEG SGVISAHCNLTLPPGFNNSCASASRVAG TTQ

7022	15073	A	7706	1	514	LSQSEKNYYSSRFSPDSQYIDNRSVNSD RASQ/ARERAPRLNHPPEQIDSHSRLPHS AHPGKPPSAPASAPQNVFSTTVSSGYNT KKIGKRLNIQLKKGTEGLGFSITSRDVTI GGSAPIYVKNILPRGAAIQDGRKAGDR LIEVNGVDLVGKSQEEVVSLLRSTKME G
7023	15074	A	7707	65	515	DPRVRAAGILYEFTWNQFCDWYLELTGP VMNGGTEAKLRGTRHTLVTVLEGLRL AHPIPFITETIWQRVKVLCGITADTIMLQ PPQYDASQVDEAALADTEWLKQAIVA VRNIRAEMNIAPGKPLELLVAGICTRNP TSVNNRGL
7024	15075	A	7708	2	505	EPVKKIFYNIHVFRNIMDFKLFLVFVAG VFLFFYARTLSQSPTFYSSGTVLGVLM TLVFLVLLVKRFIPKYSTFRALMVGCVF ASVYIVCQLMEDLKWLRYDNRIYVLGY VLIVGFFSFVVVCYKHGPLADDRSRLLM WMLRLLSLVLVYAGVAVPQFAYAAAIL
7025	15076	A	7709	2	417	EPVKKIFYNIHVFRNIMDFKLFLVFVAG GVFLFFYARTLSQSPTFYSSGTVLGVLM MTLVFLVLLVKRFIPKYSTFWALMVGCVF WVASVYIVCQLMEDLKWLWYENRIYVL SYVLIVGFFSFVVVGTSMGPLADDKSRNL
7026	15077	A	771	80	357	GPPFFFFGDRVLLCHPRLECSGMITAHCS LKLLCSQ*PSHNSLLNSWEHRHMPPLA KFFFHQQTKL*KK*NKNRSLESAPLSVFI KKVTTT
7027	15078	A	7710	14	426	RPIRMAVKQKISMLCHVNPEQVICIHDVS STYRVPVLEEQSIKVKERLHLPIDGS ASNLLFKWRNMADRYERLQKICISIALV GKYTKLRDCYASVFKALEHSALAINHKL NLMYIDSIDLEKITETEDPVKFHE
7028	15079	A	7711	61	204	GRYAYVWHCPQGPGLETPLVADTSGA YFRREGLGSNYLGGRSPTSVS
7029	15080	C	7712	537	710	MCHHTQIFVVFVEMRFYVVGQAGLEV LTSGDPPVSAAQSTGITGLSHRAQPSSVR F*
7030	15081	A	7713	788	894	KHGWLGTVAHTCNPSTLGGQGGWIMR SGVQDQPGQ
7031	15082	A	7714	1	452	SPVPQLIVPTVLSVVLLEPFLGAPLPANR LWTHLWAPRAWKQSPWQAPGLGRPLS SLGIGSCGAPGAYTRPDIRLHDKACPAE HGGGRGPGEAASRPLTAPSPGGCPERGL GTTSPQSRTASSGGSYRSFTDPPPPPIC HHRFFLTL
7032	15083	A	7715	48	421	DLQSSQGGQPRVQSWSPGRGIPQLPC AKALYNYEGKEPGDLKFSKGDHILRTQV DENWYHGEVNGIHGFFPATNFVQIHKLP QPPPQCKALYDFEGKDKEADKDCLPFA KDDVLTVIRRD
7033	15084	A	7716	2	492	LTLLNTITPSLARGNFYPLEGGRVLLDGK PISAYDHKYLHRVISLVSQEPVLFARSIT DNISYGLPTVPFEMVVEAAQKANAHGFI MELQDGYSTETGEKGAQLSGGQKQVVA MARALVRNPPVLILDEATNALDADSRDL IQHALSIGNLRKHRDFLSPVWP
7034	15085	A	7717	2	721	EGKVEEPENPAAKEKCEGKEEEEETDGS GKESKQCEAEASSVKNELKGVEVGAN TGSKSISEKGSEEVKRKSWRMTNKSEES SQPEAGAVSRGNFDEESNASMSTARDE TRDGFYMEDGDPSVAQLLHERTFASF WPKDRVMINRLDNICEAVLKGKWPVN RRQMDFDQGLIPGYPTTVDSPLOKRSF AELSMVGQASISGSEDITSPQLSKEDAL NLSVPRQRRRRRRKIGN

7035	15086	A	7718	111	381	DRGLASFAQGLEVQWHNLSLQSPVPPV LRRF/SPCLGLPRGCDYRPVPPHQANFCI VSRDGFYHVGQAGLELLTSSDPPTSQSQ SAGITGV
7036	15087	A	7719	1	190	ENKEEGQLPSSFYEASILTLPDKDSTK KS/SYRPT/SLMNFDAK\IFNKMFTNRIQQ YIERIIH
7037	15088	A	772	80	357	GPPFFFFGDRVLLCHPRLECSGMITAHCS LKLLCSQ*PSHNSLLNSWEHRHMPPHLA KFFFHQQTKL*KK*NKNRSLESAPLSVFI KKVTTT
7038	15089	A	7720	1	2499	MAAAVAAPLAAGGEEAAATTSVPGSPG LPGRRSAERALEDATGTLNLSNRRLK HFPRGAARSYDLSDITQADLSRNRFPPEVP EAACQLVSLLEGLSYHNCLRCLNPALGN LTALTYLNLSRNQSLLPYICQLPLRVLI VSNNKLGALPPDIGTLGSLRQLDVSSNEL QSLPSELCSLRLDLNVRNQLSTLPEE LGDPLVRLDFSCNRVSRIPVSFCRLRHL QVILLDSNPLQSPPAQVCLKGKLIHFKYL STEAGQRGSALGDLAPSRPPSFSPCAED LFPGHRYDGGLD SGFHSVDSGSKRWSG NESTDEFSELFRISLAREPRGRPRERKED GSADGDPVQIDFIDSHVPGEDEERGTVEE QRPELSPGAGDRERAPNSRREEPAGEE RRRPDTLQLWQERERRQQQSGAWGAP RKDSLKPLRAVVGAAAVSTQAMHN GSPKSSASQAGGCSGAGSPAPAPASQEP LPIAGPATEPAPRPLGSIQRPNSFLRSSH QSGSGPSSPDSVLRPRYPQVPDEKDLN TQLRQVLESRLQRPLPEDLAEALASGVIL CQLANQLRPRSVFPIHVPSPAVPKLSALK ARKNVESFLEACRKMGMVPEADLCSPSDL LQGTARGLRTALEAVKRVGGKALPPLW PPSGLGGFVVVYVVLMLLLYVTYTRLLD PRSPQVAWEVAPSRMTPLAPWDPKYE KAGPRPVVWSWGQTCGTGWAQGA WPEAPVLCPPHPRGPTVAQEP VTPHSGRCMKQPRAGVSGPWPLPQGTG MDSRRPQMQGSRWCAVKMSSSRTLCCP GGSVFPCTCPRPPSR
7039	15090	A	7721	1	647	RPPVPVQVPDKDLMTQLRRVLESRLQR PLPEDLAEALASGVILCQLANQLRPRSV PFIHVPSPAVPKLSALKARKNVESFLEAC RKMGMVPEESLCQPHHILEEGAPGRGLR LIIAAVVQRPAGPALGVKVGAGGPPRPG PREQKTRLGSALSEKHVVVRVAWAWARL GLPRLAASGVEGLGGRTCGCRRRCRVSR NKQKPEALWKRGCIIKKKL
7040	15091	A	7722	3	450	SRLVQRGGIPLGGWRMGVRRTGQVGP TMHPPVSGASP/PPPPPPPPPHHHPHL LRTSCVPSGLYAQSSSSSSSSSSSSSS SSSSSSSSQLNKLKPKFQVSSPNSPTLSSSF SFLPFFPASSLTRQFFIECLPGAGMSQVL GK
7041	15092	A	7728	3	368	LLGQAVKYGVNPGPYGGTTRKLYEKK LLRLREQGPESRCSTPVPTISSAENARQ NGSNDSGRYSVNEEDSKIELKLEKRDPL KGRAKTPVTRKQRRVELSESYSQAGMD EGVWSSGSSKG



7042	15093	A	7729	1	1492	ALMDEILMLQDEINELQSSLAEEVSESC EADPAEQALQSTLTVLAERMSTIRMK SGKRQLLEEKLNQLEEQRQEQALQRY RCEADELDSWLLSTKATLDTALSPKPEP MDMEAQLMDCQNMLVEIEQKVVALSEL SVHNENLLLEGKAHTKDEAEQLAGKLR RLKGSLELQRALHDKQLNMQQGTAQE KEESDVLDTATQSPGVQEWLAQARTTW TQQRQSSLQQQKELEQELAEQKSLRSV ASRGEBILIQHSAAETSGDAGEKPDVLSQ ELGMEEEETS AEDQMRMKWESLHQEFS TKQKLLQNVLEQEQEVLYSRPNRLLSG VPLYKGDVPTQDKSAVTSLLDGLNQA FEVSSQSGGAKRQSIHLEQKLYDGVSA TSTWLDVVEERLFVATALLPEETETCLFNQ EILAKDIKEMSEMDKNKNLFSQAFFEN GDNRDVIEDTLGCLLGRLLSDSVVNQR CHOMKERLQQLNFQVSKILSKDT
7043	15094	A	773	810	1075	SLRSSKTQPROHGKTSSLLKIQKISR VW*RTLLGKLRQENCLNPGGGGCSEPR LHHCTPAWATE*DSGSQKKKKGQGRK SCHFSVRT
7044	15095	A	7730	1073	1233	PYSGLGIFFFLRHGLTSPRLGCSELRLC HCTPAWVTSKTVSKNKKQKNSR
7045	15096	A	7731	34	445	STHASGDHSPKICS/TG/SYFFANSLPSK GPTTILMPVNTAALTVPANPASVITVPSKLP TSSKPPGAVPSNALTNPAPSKLPINSTR AGMVPSKVPTSMVLTKGCASTVPTDGSSI NEETPMAPTPAGAVGSSSLAWLDT
7046	15097	A	7732	3	416	
7047	15098	A	7733	1	2115	
7048	15099	A	7734	1	662	SLFASNVGSGHFIGLAGGAATGISVSAY ELNGLFSVLMWVFLPIYIAGQVTTMP EYLRKRFGGIRIPILAVLYLFYIFTKISV DMYAGAFIQQLHDLVLAIVGLLAITA VYTVAGGLAAVYTDALQTLIMLIGALT LMCYSFAAVGMEGLKEKYFLALASNR SENSSCGLPREDAFHIFRNPLTSDLPWPG VLFGMSIPSLWYWCTDQGG
7049	15100	A	7735	3	315	
7050	15101	B	7736	107	388	SKKLLFAGSRSQLVQLPVADCIKYRSCA DCVLARDPYCAWSVNTSRCVAVGGHFG SLLIQHVMTSDTSGICNLRGSKKVRPTPK NITVVAGTDL*
7051	15102	A	7737	98	473	IRGDTISYTVRSPPPRAGREYAMSTAGPP SPFSPLTQFPALYREEGKYKIPLNPGAK/ YVRAPPNPSPQTHSRLHFPSPHPENIHRP WSRTRPTSPALPLKGHSTLSTPPPYVHR CPTFGSGG
7052	15103	A	7738	2	433	GDTGHRERSLGLLREKHTWGPHPQATP QAAVPSSRYTQPGPQGWVTVQGQPPSR GEHPRPAAGLSLLHLGVDPDGLGQSG LDCVETPKPSYSFPGTSGAGPPGTMGSSLP GNGNWDEEAHTLPQGQEGMNEGGVPW RLIFR
7053	15104	A	7739	328	496	HNTDLFIY/CIYEMESCSVTQAGVQWRD LGSLQPPPLGCKQCSCLSLPSSWGLQVP ATT
7054	15105	A	774	499	946	LWLRPRGAGIAGAGICLRREGTWLLPLR SHGGKCEAASPWVSQRLELLQKPSALW WPLGLLHVHIFWKYTCAGSFLAGKLLRI TFNFFLFFFLPPFISCIFYLFLFFFRDGV SLCCSGWP*TPGLKQSSCLSLPSSWDFKC TPLCLL
7055	15106	A	7740	1	372	MEKEEPGVERKKENRVKEVIHKNRKA EGPPAGAAALPLGGRGEGP/SPEPPGGAAA PRAGERCGQLAGASPEPAETGTREPRPR GASAARKLAAAAPVGLLRPGCPRAGR

						RAPWPGKRLSEPRV
7056	15107	A	7741	34	366	ERPGPVGTLTTPTQGHPPAGP/S/GRPGS LGFTWPYPGPCTWRPAWFPARPPAGSI TPPGFCTHTLVSLDPGRDCPSPTGDCDS LCPHPDASPGIKAFCAQGGKKKKKKK
7057	15108	A	7742	2	462	IRARNYKLRKVMVDGDIPPRV\KKDAHE LILDFIRSRPPLKQVSERRLRRLPPKQSL HEKILEEIKQERRLRPVGE/ELGCPRVW LS/SPASSTPAPEMPSPPPASTCQSQMLGA APSAR/VPRVLLKAPTLAEMEEMNTSEIR AQGPRNVTAHNQ
7058	15109	A	7743	2	1002	TGPGVPMCQVGEDYGEPAPEEPPAPRP SREQKC VKCKEAQPVVIRAGDAFCRD CFKAFYVHKFRAMLGKNRILFSGEKVLL AWSGGPSSSMVWQDLEGLSQDFAKRL RFVAGVIFDEGAACGQSLEERSKTLAE VKPILOATGFPWHVVALEELVGSEGAY KAAVDSF/RPAAACAGGPGVVLARLKG RNSHPSP/SLDPQNLARPPAPAQTEALSQ LFCSVRTLTAKHEELQTLRTHLILHVARA HGYSKVMTGDSCTRLAIKMTNLALGR GAFLAWDTGFSDERHGDVVVVRPMRD HTLKEVAFYNRLFSVPSVFTPAVDTKAP EKAS
7059	15110	A	7744	2	397	APDTPDSSKFQRSK/NYKGPLDPQRGKIE DKVNKSKVILKEPGLEDLGTYSDIVTDA DEDISASHTL TEEEEKLKKLSHEIRNPGI KLISGWNIDILERGEARLWLELEKLCPA ELHLIVHNKEIFRLPNR
7060	15111	A	7745	1	849	QKKELGHVNGLVDKSGKRTTSPSSDTDL LDRSASKTELKAIHARILERRASRPGTP TSSASTETPTFEQNDVDEIHDVDEEPVA AEPDYVQPQLRRPFELLIAAAMERNPTQ FQLPNELTCTPALPGSSKRRRKEETTGN VKKTQRELDHNGLVPLPVKVCFTCNRR CRVAPLIQRDYCPLLFHMDCLEPPLTAM PLGRWMCNHNIEHVVLNHNMTLSYRC QVFDRFQDTVSHVVKVDFLNRHKKH PPNRRVLQSVKRRSLKVPDAIKSQNV TP
7061	15112	A	7746	1	201	MKKKKKEEEEEEEEEEEEEEEEEEEEE EEEEEEEEEE/EEEEEEEEEEEEEEEEEE EEEEKKKKKKHNIFKILSNLYIFIIFYCSKK
7062	15113	A	7747	3	112	KRTRLGMMAHA/CNLSTLGGQGRVTR SGVRDQDLK
7063	15114	A	7748	1	1476	LTVIRRV DENWAEGMLADKIGIFPISYVE FNSAAKQLIEWDKPPVPGVDAGECSSAA AQSSAPKHS DTKKNTKRHSFTSLTMA NKSSQASQNRHSMEISPPVLISSNPTAA ARISELSGLSCSAPSQVHISTTGLIVTPPPS SPVTTGPSFTFPSDDPYQAALGTLNPLP PPPLLAATVLASTPPGATAAAAAAGMGP RPMAGSTDQIAHLRPQTRPSVYVAIYPY TPRKEDELELRKGEMFLVFERCQDGF KGTSMHTSKVGGFPGNYVAPVTRAVT NASQAKVPMSTAGQTSRGVTMVSPSTA GGPAQKAIQNGVAGSPSVVPAAVVSA AHIQTSPQAKVLLHMTGQMTVNQARNA VRTVAAHNQERPTAAVTPIQVQNAAG LSPASVGLSHHSLASPQAPLMPGPATH TAAISIRASAPLACAAAAPLTSPSITSAS LEAEPSGRIVTVLPGLPTSPDSASSACGN SSATKPKDKSKK

7064	15115	A	7749	139	6503	LSGITKMTLHATRGAALLSWVNSLHVA DPVEAVLQLQDCSIFIKIIDRIHGTEEGQQ ILKQPVSERLDFVCSFLQKNRKHPSPEC LVSAQKVLEGSELELAKMTMLLYHST MSSKSPRDWEQFEYKIQAEAVILKFVL DHEDGLNLNEDLENFLQKAPVPSTCSST FPEELSPSHQAKREIRFLELQKVASSSSG NNFLSGSPASPMGDILQTPQFQMRRLKK QLADERSNRDELELELAENRKLTEKDA
7065	15116	A	775	56	425	GQSPPGHWHGVAQARELLRPGRLPCWV PDGHIPVRPVSGPEPPTGSRILSGEESPR PPSSQAARPQPGQPRDPSSLRIPLLLPRP* LSQSGLASSGSLRAGALPRRPPGPALLS PTPCTSI
7066	15117	A	7750	1	5290	MTLHATRGAALLSWVNSLHVADPVEAV LQLQDCSIFIKIIDRIHGTEEGQILKQPV ERLDFVCSFLQKNRKHPSPECLVSAQK VLEGSELELAKMTMLLYHSTMSSKSPR DWEQFEYKIQAEAVILKFVLDHEDGLN LNEDLENFLQKAPVPSTCSSTFPEELSPS HQAKREIRFLELQKVASSSSGNFLSGSP ASPMGDILQTPQFQMRRLKKQLADERSN RDELELELAENRKLTEKDAQIAMMQ
7067	15118	A	7751	241	6574	LSGITKMTLHATRGAALLSWVNSLHVA DPVEAVLQLQDCSIFIKIIDRIHGTEEGQQ ILKQPVSERLDFVCSFLQKNRKHPSPEC LVSAQKVLEGSELELAKMTMLLYHST MSSKSPRDWEQFEYKIQAEAVILKFVL DHEDGLNLNEDLENFLQKAPVPSTCSST FPEELSPSHQAKREIRFLELQKVASSSSG NNFLSGSPASPMGDILQTPQFQMRRLKK QLADERSNRDELELELAENRKLTEKDA
7068	15119	A	7752	775	1128	REGLYLSRFFPHSKLPRTQPDGTSVPGEP ASPISQLPPKVESLESLEYFTPIPARSQAP LESSLDLGDVFLDSGRKTRSAARRTTQI INITMTKVRLGQGLQGSNSHFLSRASLQ
7069	15120	A	7753	331	530	LKIFFFFPSGGDMSKNVQSQMAKLNQQ MAKMMMDPRVLHHMGGMAGLQSMR QFQQGAAGNMKGMM
7070	15121	A	7754	1	1517	MVLADLGRKITSALRSLSNATIINEEVLN AMLKEVCTALLEADVNIKLVKQRENV KSAIDLEEMASGLNKRKMIQHAFKELV KLVDPGVKAWTPTKGKQNVIMFVGLQG SGKTTTCSKLAYYYQRKGWKTCLICAD TFRAGAFDQLKQNAKARIPFYGSYTEM DPVIIASEGVEKFKNENFEIIVDTSGRHK QEDSLFEEMLQVANAIQPDNIVYVMDAS IGQACEAQAKAFKDKVDVASVIVTKLD GHAKGGGALSAVAATKSPIIFIGTGEHID DFEPFKTQPFISKLLGMGDIIEGLIDKVN LKLDNEALIEKLKHGQFTLRDMYEQFQ NIMKMGPFSQILGMIPFGTDFMSKGNE QESMARLKKLMTIMDSMNDQELDSTDG AKVFSNNSGRIQLARPSCVSTSDVQELL TQYTKFAQMVK*MGGIKGLFKGGDMS KNGARSQIAKLNQQMAKMMMDPRVLH HMGGMARLQSMRQFKQGAAGNMKG MMGFNNM
7071	15122	A	7755	42	449	FGLFNRLPYPPQHPKPHYSRIPGA/HAPP GPQNPSTFLSPLYCWGPSSKSPGAPKRC PSSISTPPSATPPRTLTSWPGQRCQKD GEAQSYQVRQDPTASQPAGQSRLPSWS GNQTYLQGLHGRGPRARTLQLPG
7072	15123	A	7756	3	358	LLIHSSTHPPTYPIHPPGHFFLPLFFPFF FSFSPSFHPSTHPLIHLSTYPIHPSVYPPV PLSLSVYSSIHLPTEYFLQPVAH/RRSH GRISSMPGEQSPIRLWKSPPSKPPFPW

7073	15124	A	7757	1	1668	MLVHTOPPEVHQYNHSSAATRSRFQRL QLQLIWGWSQVLPMSAFYQIIQASGLRL HACVTPGAGTHSLPFLPSVGNLPSNKG SRVYCFFAADLFDILLPMLNIYQEFVRNH QYSLQVLANKQNRDFDKLLKQYEANP ACEGRMLETFLTYPMFQIPRYIITHELL AHTPHEHVERKSLEFAKSKLEELSRMIV EGCDILLDTSQTFIRQGTMKNSNTIIVKH EWGRQLHSDWTLTLLSGPDILCSSKEDRS AWPTAVAVPSADDTQAKAQEKLALASKP FHIRLGTMSQS*SLHQRTQE\GKLP GHHRTFTLQIPLNSSAPPLSTAWRTDGG QCPLLCFTGFCFCNSHSCSRTWEAPPEEE DDICLPTSQARCNEYVGLRKSIMLVQKK DKKNITCRSLTPSEGLGTIVKLVFSEI MFNLDFKIVVEPPDAAFTVLLAPSRQ EKAAWMSDISQCVDNIRCNGLMTIVFEE NSKVTVPHMIKAKVNGCTMSHLDNSLT LPFTDTEQGRSSSWTAGHVKAPCPLHAQ LPLLASLFLQELQAFARMSFPYP
7074	15125	A	7758	1	2247	
7075	15126	A	7759	1	3711	
7076	15127	A	776	3	383	QGFRKLPLKTTTGKEKTHSCIVGLGHVN SGKTTTTGHLIYKCGGFDKRTIDKFTEA ADKAKGSFKNAWDLDKLKAERERGITID ISLWKYETSRYYVTIIVAP*LIDFIINMSTG TSQADCAGLIV
7077	15128	A	7760	1	226	SLEFSQSKLQYLSRVKHDEVS D TENIRIN LAIERMIVEGCDILLDTSQTFIRQWDHEN QQHNHSHKARVGQAVTF
7078	15129	A	7761	41	1065	GRLGPHWSPQREGAQA WQAAGPEPCP AGRQLRPGEKSSTAAPGPAGKLPTTARG QRGRPAALSAGPTEPAEPTPTRNSGWPA SAPPV/PRWGQPLLGVPGPEAGRYSAVAP SLSALRFPWWPQDVPVAVQSATDDAY EALSPSSCAFAMPSSVPA YPSITVTPDEE QNLNHYIQVLENLVRSVPSGEPGREKKS NSPKHVYSIASKGSKFKELVTHGDASTE NDVLTNPISEETTTFTPGGFTPEIGKKKHT ESTPFWSIKPNNVSIVLHAEPEYIENEEPE PEPEPAAKQTEAPRMLPVVTESTSPYVT SYKSPVTTLDKSTGIGDLYRIRRCSSALR
7079	15130	A	7762	3	342	KERSREKTGGGGDLQREVAREDRRWRR S\QREDAREDRRWRRSSERGLRRQAVA EIFRERDAREDRRWRRSSERGRPRRQ/RG GGDLQREDAREDRRWRRSSEREMPEKT GGGG
7080	15131	A	7763	205	338	NPYIYSQLFFDKGTKNHWWGRDSL FNKC CSENLISHARKIKLDP
7081	15132	A	7764	1	666	GDPGAGPGDHNRFDCGPQPPPPKCELL HVAIVCAGHNSSRDVITLVKSMIFYRKN PLHLHMVTGAVARNIMETLFTWMVPA VRVSFYHADQLKPQVSWIPNKHYSGLY GLMKLVLPALPAELARVIVLDTDVTF SDISELWALFAHFGVILLRLDRLRQAG WEQMWRLTARRELL/GLPATSLADQDIF NAVIKEHSGLVQRLPCVWNVQLSNHTL AE

7082	15133	A	7765	3	1289	INFPTTSGLDGDPGAGPGDHNRSDCCPQ PPPPRCELLHVAIVCAGHNSSRDVITLV KSMFLFYRKNP LHLHLVTD A VARNILETL FHTWMVPAVRVSFYHADQLKPQVSWIP NKHYSGLYGLMKLVLP SALPAELARVIV LDTDVT FASDISELWALFAHFSDTQAIGL VENQSDWYLG NLWKNHMPWPALGRG FNTGVILLRLDRFRKAGWEQMWRLTAR RELALSLPATSLADQDIFNAVIKEHPGLVQ RLPCVWNVQLSDHTLAERCYSEASDLK VIHWNSPKKVLVKNNHVEFFRKIYLILL ENQGNLLLEEVFLCPSQPPTGADQLQR PLPQLDEEDPCFEFRQQQLTVHRGHLLF LPHEPPPPRPHDVT LVAQLSMDRLQMLE ALCRHCPGPVSLALYLTDAEAQQFLHFV EANGVGIDRV
7083	15134	A	7766	530	820	
7084	15135	B	7767	1	954	MATAATIPSVATATAAALGEVEDEGLLA SLFRDRFPEAQWRERPDVGRYLRELSGS GLERLRREPERLAEEAQLLQOTRDLAF ANYKTFIRGAECTERIHRLFGDVEASLGR LLDRLPSFQQSCRSPRAARNAVSIMAAG AGTAGPASGPGVVRDPAASQPRKRPGRE GGEGARRSDTMAGGGGSSDGSGRAAGR RASRSSGRARRGRHEPGLGGPAERGAGE ARLEEAVNRWVLKFYFHEALRAFRGSR YGDFRQIRDIMQALTFFRGTL DQSSKQE LSLDLSSESIKNIQVNITYSLRSRDCANFD ILYDIKPF*
7085	15136	C	7768	97	408	MKTKVQPRLTVRVARNCSPKNKAHDNK QNWSWEEDSQITEPSAGLNSSQEAVSAP PSKPTVFNOPLPGEKNPKYEDLLCRNFG AGWWSWGLGLVLLPGIKETFS*
7086	15137	A	7769	1694	1866	PLIACSFFLFLFFFLLRQSLGSVHPGLGV QWRDLGSLRPPFPGLTQFSLSLPSWN
7087	15138	A	7770	106	317	CSAETEREIGRRK*CIQESSPSPLSIKKCP ICKAD*YL*SHLGATADAAPLFQLSSL*Q DLPSYREADL
7088	15139	A	7771	321	449	
7089	15140	A	7772	2516	2717	FVKSKALAFFLSFFFFFLKQSLSVTQAG VQWPVDSLQPLPPRFKRFSCLSLPSSWD YRCVPQCPAN
7090	15141	A	7773	3	282	
7091	15142	A	7774	1	1126	MRPGSLTDVTLEPRSEGGKEKSIPERRNG PCKDPGAAACKLCLTSVLFATNRHMYL HNLLLRQGVSRASRQSALTQSSGTPAMY QCSKTYIYFQGIQVDYQEVTHTGPLSIEG SMLDIKIYVNRGEHKNGVLEEAIATIL KEVLEGLDYLHRNGQIHRNSRKELNDR FEFTPGRGPKGNDGECDEKHTTVLMRV EQQWDHTERKTQTQMSTEAKVNDTAD GVSQELFSAGLVDGHDVVIACPSRNLRL FIGIISTFPGAQAKTLGIVLDFSFSHTSHPT HLNVPRILPLL TISHPITFQAPLNSQLSSCI HPFAAIPASVLASLPVLISTARDPGTSH YSSALGFIGQIPAYMELSPVIGELCLSK VTE
7092	15143	A	7775	2	1622	
7093	15144	A	7776	1	698	MAAKLVGIEFDPCWVKMLMEKGHQKT REHNYPSMEQSEKAGVTDNIQGTKAL AGSRQSVANGKNSHCKENVTWLLIHYV QPMKPYEVFWIEFVTHQKATKYLCQLPT TSPDAVFPFGELLAELLKIPFVYSRFS PG YAJEKHSGGLFPSPYVPVVMSELSDQM TFIE/RGRPTTLSETMAKADIWLIRNYWD FQFPHPLLPNVEFVGGLHCKPAKPLPKTL GHGWDRAP
7094	15145	A	7777	1	1584	

7095	15146	A	7778	2	1627	AATGKQALHCIRMSMKWTSALLLIQLSC YFSSGSCGKVLVWPTEFSHWMNIKTLTD ELVQRGHEVTVLASSASISFDPNSTLTK FEVYPVSLTKTEFEDIKQLVKRWAEPLK DTFWSYFSQVQEIMWTFNDILRKFCCKDI VSNKKLMKKLQESRFDVVLADAVFPFG ELLAELLKIPFVYRPRFSPGYAIEKHSGG LLFPPSYVPVVMSELSQMTFIERVKNMI YVLYFEFWFQIFDMKKWDQFYSEVLGR PTTLAETMAKADIWLIRNYWDFQPPHPL LPNVEFVGGLHCKPAKPLPKEMEVEFVQ SSGENGVVVSFLGSMVSNITSEERANVIA SALAKIPQKVLWRFDGNKPDITLGLNTRL YKWIPQNDLLGHPKTRAFITHGGANGIY EAIYHGIPMVGVPLLADQPDNIAHMKAK GAAVSLDFHTMSSTDLLNALKTVINDPL YKENAMKLSRIHHDQPVKPLDRAVFWIE FVMRHKGAKHLRVAADLTWTFQYHSL DVTGFLACVATVIFITKCLFCVWKFVR TGKKGKRD
7096	15147	A	7779	1	187	SGRPFFFFFGLPFLFFFFF*DRVSLLLPRL QCNGTISAHCNLCLPGSSDSPASASRAE LP
7097	15148	A	778	213	500	SKRCLSLGRGASSLEAAEHLSCCPQADG LSRSPQWASAPPRQLLSCPSAGPRGPLQL ARSPGSRRGPVVPPQGPPHQHSALT*AP AQRKRRKNG
7098	15149	B	7780	436	711	DVYKIGGIGTVPVGRVETGVLKPGMVVT FAPVNVTTTEVKSVEMHHEALSEALPGD NVGFNVKNVSVKDVRRGNVAGDSKND PPMEAAGFTAQ*
7099	15150	B	7781	26	384	MHHEALSEALPGDNVGFNVKNVSVKDV RRGNVAGDSKNDPPMEAAGFTAQVILN HPGQISAGYALYWIAIVDMVPGKPMCV ESFSDYPPLGRFAVRDMRQTVAVGVKA VDKKAAGLAS*
7100	15151	A	7782	3	523	FAPVNVTTTEVKSVEMHHEALSEALPGD NVGFNVKNVSVKDVRRGNVAGD/SKND PPMEAAGFTAQVILNHPGQISAGYAPVL DCHTAHIACKFAELKEKIDRRSGKKLED GPKFMVPGKPMCVESFSIDYPPLGRFAV RDMRQTVAVGVKAVDKKAAGAGKVT KSARKLQKAK
7101	15152	B	7783	32	188	MVVTFAPVNVTTTEVKSVEMHHEALSEA LPGDNVGFNVKNVSVKCVIWFASPX*
7102	15153	B	7784	60	209	MHHEALSEALPGDNVGFNVKNVSVKDV RRGNVAGDSKNDPPMEAAGFTAQ*
7103	15154	A	7785	3	313	
7104	15155	A	7786	13	555	
7105	15156	A	7787	3	366	IGY/NPDTVACV/PILGWNGDNMLEQSAN MPWFKGWKVTRKDGNASGTTLLEALD CILPPTRPTDKPLRLPLQDVYKIGGIGTVP VGRVETGVLKPGMVVTFAPVNVTTTEVK SVEMHHEAQKAK
7106	15157	A	7788	1	513	EAGISKNGQTREHALLAYTLGVKQLIVG VNKMDSTEPPYSQKRYEEIVKEVSTYIK KIGYNPDTVAFVPISGWNIAKFAELKEK IDRRSGKKLEDGPKFLKSGDAIIVDMV PGKPMCVESFSIDYPPLGRFAVRDMRQ TVAVGVKAVDKKAAGAGKVTKSAQK AQKAK
7107	15158	A	7789	1	1099	
7108	15159	A	779	1	615	

7109	15160	A	7790	1253	2560	SLVMLPLFDMVPGQAHVLLRASQDYPPF GSLCWFVIMRTDSCGWVSIKSSGQKRLL ELIDAPGHRDFIKNMITGTSQADCAVLIV AAGVGEFEAGISKNGQTRHALLAYTLG VKQLIVGVNKMDSSTEPYSQKRYEEIVK EVSTYIKKIGYNPDVAFVPISGWNGDN MLEPSANMPWFKGWKVKTRKDGNASGT TLEAVDCILPPTRPTDKPLRLPLQDVYK IGGIGTVPVGRVETGVLKPGMVVTFAPV NVTTEVKSVMHHEALSEALPGDNVGF NVKNVSVKDVRRGNVAGDSKNDPPME AAGFTAQVIILNHPGGQISA\GYAPVLD HTAHACKFAELKEKIDRRSGKKLEDGP KFLKSGDA/APLVDMVP\GKPHVCLRSFS DYPPPLGRFAVRDMRQTVAVGVIKSS/VD KKAAGAGKVTKSAQKAQKAK
7110	15161	A	7791	39	362	AEKWARNMPFFPDQM TDQVSLRLTLW SELFGLNAAQCSMPLNEAPLLAAAGLQ AYPMSADRRVAFMDHIRIFQEQA EKFR LHVGSPEKQCLKAIVLFTSNTWGRG
7111	15162	A	7792	19	384	FISSIKFIMSFNFTSLFFHFI SLGQFIS SSK\SHFISFHVISSVHLIFSSHFMGSSQ LFSSDHFIISCHRFMSYLLRSVQFHFNIS HYFRSSHLITSCHHISSCNQNSSSSQHFIS
7112	15163	A	7793	16	450	TQGS HQSPPPGS\PHAAHTCCPGRGGEA GGTGS LCLLGQGHTRPAALKDWPGGR PEGHKVRS DPPGRPASSTVQLKGLSGER DGCPLRRGPGPHRAEGSPSRALRPPGTR GNTAT RTPVSSGMRAASCQAWRNEVRS LMVQAP
7113	15164	A	7794	1	427	
7114	15165	A	7795	1	330	
7115	15166	A	7796	3	1229	SPPSPLPGLASQDSRPVFPSPTPAMAAVP TQPSKEGPWSPESPMRLITAPLPPGP SMAVPTLGPGEIASTTPPSRAWPTQEGP GDMGRPWWAEVVSQAGIGIQGTITSST ASGDDEETTTTTITITITITVQTPGCSW NFSGPEGSLDSPTDLSSPTDVGLDCFFYIS VYPGYGVEIKVQNISLREGETVTEGLG GPDPLPLANQSFLLRGQVIRSPHQALR FQSLPPPAGPTFHFYQAYLLSCHFPRR PAYGDVTVSLHPGGSARFHCATGYQL KGARHLTCLNATQPF/LWDLKEPVCIAA CGGVIRNATTGARIVSPGFPGNYSNNLTC HWLLEAPEGQRLHLHFKEVSLAEDDDR LIIRNGDNVEAPPVYDSYEVEYPPPPPL QPHYHRVSV
7116	15167	A	7797	110	342	FVLFTK VYEGERAMTKDNNLLGKFELT GIPPAP*GVPQIEVTFDIDANGILNVSAVD KSTGKENKITITNDKGKEA
7117	15168	A	7798	1	335	NFCTREDHQYAPLDPKHGHLPPRMPPSE RLMAAEAAFYSPPYHDRPTNSEGWEHT GLYESFRAKLRSPRRKGPEKRNSGSPRSR NRSKSRGRSSSRNSRSS*SSGSYSRS
7118	15169	A	7799	110	409	
7119	15170	A	78	226	481	CLAHSRHSINISTCTGAEGHESEFSYWG TRGPSATMACDGLTRTGHSSPSRARSP LLCARSLTKAACQ*AVPVTWCHCWRPQ G
7120	15171	A	780	140	459	RSSLLPCLGLWTHLIPVKVRDSLGP EAFR GEKADMPVLYDRLLKLMEMLYFKSGTI PMFYG*APRRVYIIGERIHYCGYSVLPMA VEQDVLI AVEPVKTYALQLAN
7121	15172	A	7800	40	621	

7122	15173	A	7801	1	338	GTSFYLYRKGYLSLSKGVPM SHYAGTLL LLLAGVACLGRGIVRWTNPHYRKMTIP* ASHRNQSSKYPRHVANYNCDFRSWPDD FHCDEPITRNESQGGPIRRSVHTASPKPM
7123	15174	A	7802	1	390	ILDCHTDDSGTYRAVCTNYKGEASDYAT LDVTGGDYTTYASQRIDEVPRSDPELT RTEAYAVSSFKKTSEMEASSVREVKSQ MTETRESLSSYEHSASA*MKSAAL*EKSL EEKSTTRKIKTTLAAR
7124	15175	A	7803	3	235	VNSAEEAEQANTNLSKFRKVQHELDE/ AVALPHFDLLIQLVLHLADEAEERADIAE SQVNKLRAKSRDITGGLNEE
7125	15176	A	7804	2	561	MRPHRLDEAEQIALKGFFKQLQKLEARG RELENELEAEQKRNAESVKGMRSERTP SKELTYQTEEDRKNLAAACRTLVDKLQL KAKAYKRQAEAEQSPTPNLASKFRKV QARAGLRAEERADIAESQVNKLRAKISR DIGTKGLEMKELAFATSLNLAPPLGRCP ANAPCWSLCNSFLGREAE
7126	15177	A	7805	3	303	GRRPPALIDSRSPSPASPPTQ*CRPPSFPGP APPPRLWLAPPPCPPPPHGYGPPFARKR RGAALGLTRVLPSPGSAVRRSPGPGGS ACDKVFRITTSR
7127	15178	A	7806	190	389	RRTYTSHLLACLRLQGLAFSPRLECGGKIR AHCSLQLYGSSDPPT*APQTAGTKQHNQ RIAQCNAADN
7128	15179	A	7807	3	271	FFLRQSHSVTRLECTGAI*AHCNLCPLGS SDSPASAS*VAGITGMCHHARLIFVFLVE TGFHHVQGAVLELL/NLMICPPQPPKVLG LQA
7129	15180	A	7808	610	923	FYLSEAEFFFFFETES/HLLSPRLECSG MMSAHCNLRPLPGSSDPASAS*VAGITG GHHPAQLIFVAF/MYQPGFCHVGQAGQQ LLA*VICLPQPPKVLGITGA
7130	15181	A	7809	487	796	LSIFFFFEGRGAIVANVSLNFPGSKKPP PSLSKEPGTTGAAPPREIFFPPKTRLGFA LHPGSPPPGPWAPLWSKGEKVGLKKH KVGRGRGFSVPSPF*KPPPSLSKEPGTT GAAPPREIFFPPKTRLGFALHPGSPPPG PWAPLWSKGEKVGLKKHKVGRGRGFS PVSPPF
7131	15182	A	781	595	1060	ARFLPKYQSPTGPHPSFNAFLSLGAMCV LPRPNFHS�AVRSPVPGGPAPLVPGKE* EGLGVTSQSRPDCSPMSGTPRCRS*LRP AAGRGCSPLLGGCPWTVTHPLRTKAGC TLSWAQPVVLPVGGEGPRCASPVAVL GFSPCALCHLDPPVK
7132	15183	A	7810	1	340	GTSQVLTLTIAEV**NLG*VGCK*CKHTE AKRMPCAEDYLSVVHEQICVAHENTPVS DRVPIRCPESLAIRLPCFSALEVDETYGD* EYNAEAFTLHADICTLSEKERPIKKQ
7133	15184	A	7811	3	337	IESSLHQVESMHGAGNAKKNWQ/RIQEH FFFATFHPLKDYCL/EGTNLVEADNQAE WTDVQKKIIPWNSRVSDLDLAELLFQDR AARLGKISIRLIRCGPSLHSDKPTNFRE G
7134	15185	A	7812	3	926	YGEENLKTSICTFLAVLSHLDIITQNIPEK KLILKQALIVVLQWCFNHNFSVRLYALV ALKKLWTVCKVLSVEEFDALTPVIESSL HQVESMHGAGNAKKNWQRIQEHFFAT FHPLKDYCLETFYILPRLSGLIEDEWITID KFTRFTDVPLAAGFQWYLSQTLKLP GDWSQQDIGTNLVEADNQAEWTDVQK KIIPWNSRVSDLDLELLFQDRAARL/GKSI SRLIVVASLIDKPTNLGGLCRTCEVFGAS VLVVGSLQCISDKQFQHLVSVAEQWLPL VEVKPPQLIDYLQKKTEGYTII



7135	15186	A	7813	3	360	ATCSSDQSVKVVWDKSESGDWHCTASW KTHSGSVWRVTWAHPFQVLAFCFTD RSSAVWDEILSES RDNL*GHTHWVKRTT LEDSIVSATCV*SFLSHVGIMLLSCGTFFP ACICGVFP
7136	15187	A	7814	9	305	SHLLRSLRQENRLNPRGGGCNQPRSGHC TPAWATRAKLHLKKQTNKMLANLIQOH IKKVIHHYQVGFTPGMQG*FNICKSVSVI YHINRTTHKNVAAAA
7137	15188	A	7815	3	217	AASTMPMSFEWQRO*RFPPFYTLQPNVN TRQKQLTA*CSLVLSLCRLHKQSSMTLIK TRLTSDSITVMLDC
7138	15189	A	7816	15	335	QHFWERFHVTKDRINTVERQETDWKIFA TYLMKKV*ISRKCYN SYKLVKKQLNR KWAKEKNKQSQKKKQSGQ*TKTVQPQ* NKRAN*RYLSPISLAKSNKLN
7139	15190	A	7817	1	331	GLIEILVIYVSDTPVK*DV*SDIFEQ*AYG KIDGGNDVCDLQSSEGTNTKMKNNNEEM MIGEAMDETGHGETENEGISTKTSKPD EAETNMLIAEMDTFVCDTVMESTEG
7140	15191	C	7818	51	200	MSTPXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXS*
7141	15192	A	7819	3	219	MLAGCSRTPELR*STHCSLPKCWDYRRA HNAQPFLTLN*RSETRRSL*F*IMWLPLE FLGFPLESQQGCTA
7142	15193	A	782	71	237	EQPGMVTHTCNPSTLGGRGGWIT*DQEF KTS LANMVKPCLCWRYKKLAGHGGAC L
7143	15194	A	7820	1	358	VHCLVPDLLQSNNPCYWGVM D KYAA EALLEGKPEGTFLLRDSAQEDYLFVSFR RYSRSLHARIEQRNHNFSFDAHP*VFHS PDITGLEHYKDPSA*MIFEPLLSTPLIRT FPFCL
7144	15195	A	7821	260	481	LILKFV*NHKIPQIAKTILSKENKAGGITL PDAKISCKAVVTKTALYWHN RHIEQW NRIANTEINPNICNQLI
7145	15196	A	7822	1	306	VKAKAKKLQIQIQLLELYCSYDMQEED FAHRAMDYFPKIENNLSTRMDH MVSSF CIENWHQLESLSLLILHNMPHYEED EEF GLRLDMVQ*RLTSCSDAG
7146	15197	A	7823	3	396	SSL SLSLSSSVSVTFGFGTFPFAVSSSIPDG GLALAFSSSGLSTSFSSP*SHSSSSPPVPP LSSDTRRSTSPADMAAPSAT*TRRSTAPS NPFPSLAAPREKGGNPPTNERRKLETPI PGRRRQRROR
7147	15198	A	7824	3	344	HEHECYAKVLYELKPVGEEPQNVSKQN CDLFEQLGQYEF*NALLVRYTKNVPQGT TPALGQVLRNLRKVSSKCKKHPEAKTM PCAEDYLSVILNQLCALHDSAVSDRVS RCWT
7148	15199	A	7825	1	413	RAGYRQKWGSLATVIGQLGLPSGEGLV WPQRRREGHRNAHCSELVDDLHVITQ NRANHRPRCGSLLSELKFAPLALQPGR QSKTLSQKKNKQTTTKNTKKQPGSVA HACNPSTLGG*GRQITLPSGVRDQPGQH
7149	15200	A	7826	37	363	ASDWNQDRARGRGQGGCETRDSSESQS GTNGQPPAEASKDSWSSGGMAR*APSP QRQKAGYPGSPSPQAPASMRSLGPPQF QEPPQALFLEVPIPSPHTRNK MARA
7150	15201	A	7827	3	354	HERAFLNNSCFL*AFDPYQCDRYLFKIV TDVYYTPYVLIYYI*APLPLLQLTHTHF LSLFFL*VLNIYALVYLSTALPLSLFISIS PRYSLCLFFHFLSLMLFLSSLSMYCSHY
7151	15202	A	7828	2	269	ARVAPLKGVQEQEVREHEVTKPEKEK GEETRIENGLIVVSDSCGRVYVSGKIYY PM*AYNDGLILERYQIMPDIIVSYVFIMI

						CLD
7152	15203	A	7829	2	350	KDIRVGHRQNRALPPQASPTVAPGQPT ALPPTGHSIPTMGWPSRLSQLSLITAPTS ASPTVVKLPSGACWPLSSTFASPLSLVQ *P*NSDSHDATSAMAPSESRECLSPWPA R
7153	15204	A	783	236	404	EDGHHSGLHSKQKQPAWPSMVTHTCN PNTLGGRGGWIT*GQEFETSLTNMEKPC L
7154	15205	A	7830	2	376	SHCLEPKDIRVGHRQNRALPPQASPTV APGQPTALPPTGHSIPTMGWPSRLYQLS LITAPTSASPTVVKLPSGACWPLSSTFAS SPLSLVQ*P*NSDSHDATSAMAPSESRE CLSPWPAPRA
7155	15206	A	7831	176	379	SVTDHPIYNCNLSPSPNPGSPDPSDVLFP VVMTDYLLP*CVICCCFLSDPPHCSHPV GGSFFGIN
7156	15207	A	7832	1	344	NSGRVSGNLSPLPPGPPRPLEEATP VLLSQGIPEREDSFRNLRTDLYIHQLKS* DSPEISSLCQGEETPRHSDKHNS*NAAS EGKCGFPSPPTMEVEIASHDEEDVIHS
7157	15208	A	7833	355	535	PNRPITGEVTTKNLTKKSLRDPGFTDFC *TFKEGFIPTLTKTVKEGLHPTFLYEASIT L
7158	15209	A	7834	61	250	RSRLCAPVRESHTYLIMPGLCC*FFLYYI FFGFFSVVFCLLSFYSPFFSVSSVSFV*F WVF
7159	15210	A	7835	3	66	DAWEKKICETEDWLFHIIHQRISSSRMKR NKEQLQDV*NTIKRTNIRIIGVIEKREKG RKLI*EIMAENSPNLGKDMSIQVYEAQRS PYRIHKKTSPPKHMIIKLSKAKSRR*IRG
7160	15211	A	7836	3	146	HMVAGAVAGILEHCVMYPIDCVKTRMQ SLQPDPAARYRNVLEALWRIIRTEGLWR PMRGLNVSASCAGSAYALYFACSD*LTQ LPAIAMCWPSGGL
7161	15212	A	7837	2	329	VASGRRKNNLSKVTGLEVPSTPDRPC SGRQSLNPPVTSFPNPSQRNRTPPPTTRQ MATL*EALHGSHLPPGRAERTSSPGPR TTRPQVSDRRAQSPTSYPVGPGRP
7162	15213	A	7838	2	356	EAGAHT*ITMKNQRLKETVDDTVEVSD FTVSRNAHEAFNTAFTLAACAASIG*V LLYLTLTTCPC*CKTKRQNNMLHQSNA NSSILRPGPASDASADERNACARKRAVL LEPLKD
7163	15214	A	7839	3	264	
7164	15215	A	784	2737	2915	KNVVHTHQGILYSHKKEQD*LGVV AHT CNPSTLGGRGGWIT*GQEFETSLTNMVK PCLY
7165	15216	A	7840	42	226	
7166	15217	A	7841	1	507	LQLEAEEQRKQKKRQSVSGLHRYLHLL DGNENYPCLVDADGDVISFPITNSEKTK VKKTTSDLFLEVTSATSLQICKDVMDALI LKMAEMKKYTLENKEEGLSDTEADAV SGQLPDPTTNPSAGKDGPSSLVVEQVRV VDLEGLKVVYPSKADLATAAPPHVTV VR
7167	15218	A	7842	51	340	PILVYRPDVPD*VAKDYASFRNYT*GPLL DRVFTTY*LMHTHTQTVDFIRSRHAQFGG FSYGKMTVMEVEDLLDGLMDESDPDNL FLKSFHA*KJAY

7168	15219	A	7843	44	1352	KMLYKNFIMQSQELTALWEAKVHPAML GLDELGRSGCGHCTQADLRFGDAAAGRD PGQDNDRNTAEPAPPPPRVMAAAAAAL RAPAQSSVTFEDVAVNFSLEEWSSLLNEA QGCLYHDVMLETLTLISSLGKRQTLHTR ERPYESIECGKAFAEKSSLINHRKVHSGA KRYECNECGKSFAYTSSLIKHRRIHTGER PYECSECGRSFAENSSLIKHLRVHTGERP YECVECGKSFRSSSSLLQHQRVHTRERP YECSECGKSFSLRSNLIHHQRVHTGERH ECGQCGKSFSRKSSLIHLRVHTGERPYE CSDCGKSFAENSSLIKHLRVHTGERPYEC IDCGKSFRHSSSFRRHQRVHTGMRPYK* SKFWKFSCPGFLLQGQRVHTGSRCEC DKWGIFFS*NASFFT*KSAPTEEVPECN ECEKAFSPLSLVT
7169	15220	A	7844	2	353	NLLYQFWIHTEVINNLGPLELILNTRSHH RVHDGRNRYCIDKNYAGVLIWDKSFSGT FEAENEKVYGLTHPINTFEPIKVQFHHL FSIWTTFWATPGFFNKFSVIFKGP*WPGG KP
7170	15221	A	7845	3	386	TVRVCACDHHGNMQSCHAEALHPAGL STGALVAILLCIVILLETVVLFALRRQR KKEPLIISKEDIIDNIVRYNDEGGGEEDTQ AIDIRTLMNVPPI*DTHLRRCFAP*TSLYY HRATPTRSCYHP
7171	15222	A	7846	151	352	YCCTYYIFVLFIP*SSCGLTLIFITCIIIFGSI SFFLFFITIVFSIIVTTFKRLLYSIIFLSYLL C
7172	15223	A	7847	2	265	VKPSP*PLTGALSALLMTSGLAM*FHFHS ITLLILGLLTNTPPVQKGLRYGILFITSE/V FFFAGFF*AFYTPA*AYPQLGGTAQQDT
7173	15224	A	7848	1	156	GIRHEAYHIVKPS*PLTGALSALLMTSG LAM*FHFHLKKKKKIGSSFIAVG
7174	15225	C	7849	512	778	MTSGLSHVDFTSNSITLPHTRAYXTNLT NHIPMMARMLTRKAHTKGHHTRTCSK KAFRYGDKSYLFTSGSFSSQGFIEPFLP LQA*
7175	15226	A	785	361	710	DLFWLF*MDKFLDTYTLPRLNQKEVK
7176	15227	A	7850	15	613	LKTTHLLFQVSVGQESRCGLAKSSGSKS LTRVKVRGQPRWCHLKAQLGKDLLLS SLTWLLAACGSSPVVGLWASAPGLLLAS HHPRFSATWVFHKVAHNTAAGFMSTGK QEG*RDKITAKQKFASYNLISEVTTHHFL PYSIYEKQVTRSSPHTKERDSPRG*LSEG KDHWEFFQKLPATDVIALFYENKHQTH YIHL
7177	15228	A	7851	66	355	KSMTDGHQITVTNIRQLPARTLYTHWPR EFSP*SPPLERMHTRGARREARQKAPRIR DKRRGKSRVHCLGEELANGGWDRIRW GKGERQGDSEGRV
7178	15229	A	7852	3	358	HASAHASQGDDQLERDHEN*DRFVRQ VVGINNYRISEESGHPYNIFGKIFHDCAD LDTSEH*LCKCDSFDKTLKPTINLVSYNR NFA*TNIDENFRCGKSPSYSSCYSKHEEL HNGM
7179	15230	A	7853	79	413	LSKGTGRKRDGLTLPAHPKAKTDPAAAP QGQPGVGVRSPPCPG/QREQQGSAGSP GWMGGGCPVPS*PLKGONQPSSSLGG SKGSFFSPDPAPAVARGRRVRGEERGQVR E
7180	15231	A	7854	171	173	LTAEACLSFSPSLPSSLGVSQCPHHGGLG PAHPSALPQPPGCIFEAAWPPRALT*PLSS PLTPAPGHCRIRRGEEGASAAFPGLGT GLVLSFEDDHRLQD*QAHTQSQPGASP QTLCCFRGLGHAGELLTPPTVQPLFPE SASKWPQLFGPRILPGPPKGSPTTKAWPP GVCGQQLPLVKGHPG*PSPASGRSRCEV SVDSQBVVI D LGWGL APAGCSQHWB

						SVPSCPVVPLPLGWGCLAPAGCRSQHW D
7181	15232	A	7855	27	263	FHCFISNF*VANRSSLLIDFSVGLLKCKS FIFFNAILHYCLMMVCEYDSLFSYMF LLIFFYFYIFIYLLFIHPY
7182	15233	A	7856	92	354	VLNSI*SGNQGKSYANVYRLLYLDPIPKI YAEAYTP*NVNSTNLETKSPKTIQKFPED REFKNDFFEKTKNGDRETGAHPFLLFL V
7183	15234	A	7857	464	2848	GETGMSTALHTTTVAMRCPMLGGGGGP TYGPPQPWGHPDVHIMQHHVLPQARLG SIAEIDLGVPVPMKTFKEFLSLDDSDV ETEAVKRYNDYKLDFRQQMQDFFLAH KDEEWFRSKYHPDEVGKRRQEARALQ NRLRVFLSLMETGWFDNLLDIDKADAI VKMLDAAVIKMEGGTENDLRILEQEEEE EQAGKPGEPSKKEEGRAGAGLGDGERK TNDKDEKKEDGKQAENDSSNDDKTKKS EGDGDKEKKEDSEKEAKKSSKKRNRK HSGDDSFDEGSVSESESESESGAEEEEKE EAEALKEKEKPKEEWEKPKDAAGLEC KPRPLHKTCSLFMRNIAPNISRAEHSCK RYPGFMRVALSEPQERRFFRRGWVTFD RSVNIKEICWNLQNIRL/RECELSPGVNW DLTRVRNINGITQHKQIVRNDIKLAACL IHTLDDRTQLWASEPGTPPLTPSLPQNPI LKNITDYLIEEVSAEEEELLGSSGGAPPEE PPKEGNPAEINVERDEKLIKVLDKLLLYL RIVHSLDYNTCEYPNEDEMPNRCGIIH VRGPMPPNRISHGEVLEWQKTFEEKLTP LLSVRESLSEEEAQKMGRKDPEQEVEKF VTSNTQELGKDKWLCPLSGKKFKGPEFA RKHIFNKHAEKIEEVRKEVAFFNNFLTD AKRPALPEIKPAQPPGPAQILPPGLTPGLP YPHQTPQGLMPYQPRPPILGYGAGAVR PAVPTGGPPYPHAPYGAGRGNYDAFRG QGGYPGKPRNRMVRGDPRAIVEYRDLD APDDVDFF

7184	15235	A	7858	1073	3541	GETGMSTALHTTVAMRCPLGGGGGP TYGPPQWGHDPVHIMQHVLPIQARLG SIAEIDLGVPPVMKTFKEFLLSLDDSV ETEAVKRYNDYKLDFFRQQMQDFFLAH KDEEWFRSKYHPDEVGKRRQEARGAL QNRLRVFLSLMETGWFDNLLLDIDKAD AIVKMLDAAVIKMEGGTENDLRILEQEE EEEQAGKPGEPKKEEGRAGAGLGDGE RKTNDKDEKKEDGKQAENDSSNDDKTK KSEGDGDKEKKEDSEKEAKKSSKKRN RKHSGDDSFDEGSVSESESESGQAE KEEAEALKEKEPKKEEWEKPKDAAG LECKPRPLHKTCSLFMRNIAPNISRAE LCKRYPGFMRVALSEPQPERFFRRGWV TFDRSVNIKEICWNLQNIARGARSLNR SRGKGLRAAVSLASGLRECELSPGVNRD LTRRVNRNGITQHKQIVRNDIKLAAKLI HTLDDRTQLWASEGTPPLTSLPSQNPI LKNITDYLIEVSAEEEEELGSSGGAPPE PPKEGNPAEINVERDEKLIKVLDKLLYL RIVHSLDYNTCEYPNEDEMPNRCGIIH VRGPMPPNRISHGEVLEWQKTFEEKLTP LLSVRESLSEEEAQKMGRKDPEQEVEKF VTSNTQELGKDKWLCPLSGKKFKGPEFV RKHFKNHAEKIEEVKKEVAFFNNFLTD AKRPALPEIKPAQPPGPAQIIHVPVRVVL PPGLTPGLPYPHQTPQGLMPYGPQRPIL GYGVPTGGPPYPHAPYGAGRGNYDAFR GQGGYPGKPRNRMVRGDPRAIVEYRDL DAPDDVDFF
7185	15236	B	7859	145	226	MAVNCSEMRLKSSWNGCAIANEGDCHL EATSICSSTSFMDMLGEFRHCESSILLAST AX*
7186	15237	A	786	2	424	
7187	15238	A	7860	136	1559	ILTMREIVHIQAGQCGNQIGAKFWEV EHGIDPTGTYHGSDQLDRISVYYNEA TGGKYVPRAILVDLEPGTMDSVRSGPFG QIFRPDNFVFGQSGAGNNWAKGHYTEG AELVDSVLDVVRKEAESCDCLQGQLTH SLGGGTG/SPGMGTLLISKIREEYPDRIM NTFSVVP/SPKV/SDTVVEPYNATLSVH QLVENTADETYCIDNEALYDICFRTLKLT TPTYGDLNHLVSATMSGVTTCLRFPGV QLNADLRKLV/VNMVFPRLHFFMPG FAPLHQPVESQYRGSHKCRELTQQ/VSF DAKEH*WAACGPPATGRYLTVAAAFR GRMSMKEVDEQMLNVQKN*QLTLWE WFPQQCSRTACLFTSQPRGPRWAVHLS LGNRHSHSRELFQSGIFGSSFTWPCFRK AF/LFWH/YTQGEHGTEMGVSTEG*EA TLNDLRL*SIKQLPRMPTQEEEDFGEEA EEEE
7188	15239	A	7861	2	304	ARGLCPLGYTGLKCETDIDECSPCLNN GVCKDLVGEFICECPSGYTGQRCEENINE CSSSPWLKNGICVDGVVYCCTFV*GFCI FKFSCSSCPLYTI
7189	15240	A	7862	1	345	GTSGTSRFL*DVLQMNDFGTRWRFYAT VIYQKPQLKSLILE*RETWVLGTDGTLQ TKEEKDPRLRKTLVYVAPLLVLGSDVL EALSGAAPLRLFLKDAIRDQARIGRAERT VL
7190	15241	A	7863	2	343	VRSAYPRLNSLAGQRRHHLCHPLLP AGGARAPQPPQQLGARGPGRCRM RRRPQAPRAGRGAAALARAL*PLSSTASR RGACPGAAPSDSPEDPASDHGHSPLGG RC

7191	15242	A	7864	1	338	QIDEIVTETLLTEAERGAKVYLTTGYFNL TQAYMDLVLGTRAHEYQILLASPEVNGFF GAKGVAGAJPAAYVHIERQFFNDECSL* QSRVQLSEYWRCSGRSLSEFVRHDI
7192	15243	A	7865	174	361	
7193	15244	A	7866	1	1259	VRCRPVRNSRVDPRVRMAAVFLVTLYE YSPLFYIAVVFTCFIVTTGLVLGWFGWD VPVILRNSEETQFSTRVFKKQMRQVKNP FGLEITNPSSASITTGITLTTDCLEDSLLTC YWGCSVQKLYEALQKHVYCFRISTPQA LEDALYSEYLYQEYFILSSDIPISTEN*T SYG*SVANLLIILGILEACLLQNKHSPCI RTCSVYRISVSGTGFAFRLIYPLALIIRL LMDKVPLTY*SFLGY*KHVYCFRISTPQA LEDALWSEYLYQEYHFIKKDSKEEYICQ LPRDTNIDDFGTVPRSRYPLVALLTSLDE DDREIYDIISMVSVIHIPDRTYKLSCRILY QYLLLAQQGFHDLKQLFMSANNFTPS NNSSEEKNTDRSLLEKVGLSESEVEPSE ENSKDCVVCQNGTVNW
7194	15245	A	7867	106	387	
7195	15246	A	7868	2	766	
7196	15247	A	7869	149	420	CGTDKTFFWSCTVRENLSYSEELLSRR QICKNKNDPPGDRD*FDYSRSDYEHSRR GRSYDSSMESRNRDREKRERERDTR KRSRKSP
7197	15248	A	787	1	462	
7198	15249	A	7870	1	443	GQDSRSRDNGPDGMEPEGVIESNWNEIV DSFDDMNLSSELLRGIYAYGFEKPSAIQQ RAILPCIKGY/DCDLYETLTITQAVIFINTR RKVDWLTEKMHARDFTVSAMHGDMQ KERDVIMREFRSGSSRVLITDLLARGID VQQVSL
7199	15250	A	7871	2	363	ELDTLCDLYEP*PSPSIIFINTRRK/VDWLT EKM HARDFTVSAMHGDMQKERDVIM REFRSGSSRVLITDLLRIGRGGFRGRKG VAINMVTEEDKRTLRIETFYNTSIEEMP LNVADLI
7200	15251	A	7872	3	449	NLQEWKLDTLCDLYETLTITQAVIFINTR RKVDWLTEKMHARDFTVSAMVCLPAA SLLWVCPSEVSYLKPGFLEPRCLPGLLHI CFLFQHGDMQKERDVIMREFRSGSSRV LITDLLVSRGN**QRQKGGSKVIPSPRG HQCLSGK
7201	15252	A	7873	236	533	
7202	15253	A	7874	1	366	AEIRDRSPCGELHVEREEWKLDTLCDLY ETLTITQAVIFINTRRKVDWLTEKHAR DFTVSAMHGDMQKERDVIMREFRSGS SRVLITDLLVSRGN**QRQKGGSKVIPS PRGHQCLSGK
7203	15254	A	7875	5	1285	FLRIMSASQDSRSRDNGPDGMEPEGVIES NWNEIVDSFDDMNLSSELLRGIYAYGFE KPSAIQQRAILPCIKGYDVIAQAQSGTGK TATFAISILQIELDLKATQALVLAPTREL AQIQKQVVMALGDYMGASCHACIGGTN VRAEVQKLQMEAPHIIVGTPGRVFDMLY RRYLAPKSIIRMLVLNEADEMLSRGFKD QIYDIFQKVLNSNTQ/VVLLSATMPFDVL EVTKKFMRGPVIRILVKKEVLTLEGVIRQF LHQPWNEEEWKLD*CDLYETLTITQ AVIFINTRRK/VWDWPHPRKMHARDFT VSRHAMGDMGPKGNETVIMEGSRSGS *QSF*LPT*PCWARGIDVPARFSLVINYD LPTNRVNIHRVIGSTVDRFGRKGVAI VTEEDKRALRTLGAASYNTSIEEMPLNV ADLI

7204	15255	A	7876	3	378	MDTTPLSYES*SDEYLVTNM*LQDAFC RGLVKPGLNVLLKGPINAVIDVNGLKQC LA*FKRYLECL*RLDVTLCVPV*IGGSDA PLPHNKDHKAADP*DYFQR*MSFYRQA HAAMLAVLPRHH
7205	15256	A	7877	2	397	RESESCAAADTPALETLSFHGDWEIIEVF NRDLGSTYPDDLAL*MEDVDFEEYEE* GYD*GWVLYPQEGVIGNMEGPDYS*VTF ALHSSSVYRVSLDPKTYTLAVTGGYDD GAFVWLLTYG*LLFE*ASHE
7206	15257	A	7878	3	399	NSQVLLDSPIQLSKITENYECITELSGLLK REQSSTVNASNLENDEARLKAYLENRSE IDSLKTSNPIDL*EASISQAGSIN*SRF*SS GMNKSVDVRIDNFNGSIGDRILLTAANVI LAWCRLYGLMRQNV
7207	15258	A	7879	1	424	PVLRVARERSLPGPQEGPHGRASESASPL APSIAPSPGPPALSASHIMGSQALRSPET PW*SPWDPPAPLDLVSPWQFPFGPHASA TP*RSPLGLQTPQAPGSWAPHVPATPQA SGLPAPHVTETP*ASS*LAMPVPETP
7208	15259	A	788	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFFDSFGNLSSASAIMGN PKVKAHGKKVLTSLGDAIKHLDDLKGTG AQLSELHCDKLHVDPENFKLLGNVLVTV LAIHFGKEFTPEVQASWQKMVTGVASA LSSRYH
7209	15260	A	7880	156	312	LFSLACRYHVYPTCRNTSGILGFTVSVVT NAIPFIS*LSSFYIYFLYNFG
7210	15261	A	7881	15	394	FGCLLQGRRPLKSHSPWQGPASGRPAQ GKHKNR*RGQNPSNLSPAPTTPWPGIK CPLPRAGPSLSLLPGRVLCARPEFPLHG RGLEPSASLLPSALAPSPRLGLKGTERR LKADQAWGGWKE
7211	15262	A	7882	2	102	NKILIIKTNSRKK*KIE**RDNNQSNNNKN HNK
7212	15263	A	7883	3	397	NFLYTFLYFPNFV*SAHCF*NQKKKNKY FLLREKCLLNCFPFLYVAFYVYIPSFNLS GC*YLPSCSIFYVFIPLSHPLLFFFLCFSLS FSLPFFLSLFCFPFLAFLFHPSFILLDSSA CLLCISCFHL
7213	15264	A	7884	190	339	DGKGLLQVCLPLQDVYKIGGIGTVPVGR VETGVCLKPGMVVNFAIPVNVTT
7214	15265	A	7885	377	1073	LQGHRLRTGAVLIVAAGVGEFESWYSPR MGRPESMPFLAYTLGVKRLVVGVNKM DSS*PPYS\QKRYEEIVKEGSTYIKKIGYN PDTVAFVPISGWNGDNMLEPSANMPWF KGWKVTRKDGNASGTTLEALADCILPP TRPT*QSPCGLPSSRDVYKIGG/LGTVP VGPSGRLGVCLKPGMGGSPLAPVNVTE VKICSEMHGGRF*VEALSWGDNVGLSM FQGLLFCSK
7215	15266	A	7886	2	415	SVGDPCSTASVDQCTIVP*PMEGPLLLY RRCIEGVGGIFLWDPQPSSPQHPGATPST GEPGFVVHQDLSHIQQPAAVVAALNN HKPPVRS*PPSATPEAFT*FSKCDDLDEE LSLLRYCHAFSEC*HDIRPSHIHP
7216	15267	A	7887	1	360	TERFGM*GGEAVCLYEVPVSELLRRCGN CTRESWVVSFYLSADHELLSPTNYHFLS SPKEAGGLCKAQITAIIFQQGDIFVDLET SAVRPFVWWQVEAIPVDYLPCSFVMIPT LYCSP
7217	15268	A	7888	152	378	WEGGSGTILARRFWDLQAYRPHAQVP GFLR*SHLMAVGHAETDLTALTMLILT PEAWQLHTILYLSGLLAMLP
7218	15269	A	7889	302	564	YWLFYDFMIAEKILNGYFCCCC*DRSCP VAQAGELWHERGSLQPRPPGVKQCSYF SLLSSWDRRHVPPLANF*TFFCRDRVSP VLP

7219	15270	A	789	38	485	APSPDAMGHFTEEDKATITSLWGKVVN E/DAGGETLGRLLVVYPWTQRFFD/SFGN LSSASAIMGNPKVKAHGKKVLTSLGRC HKSTWDDLKGTFAQPDVNCTCDKLHV DPÆENFKLLGKCCW*PVFGNPIFGKEFTP EGAELPGQKDG
7220	15271	A	7890	1282	4603	GSLPCLEHVSLNNPLSIIPDYRTKVLAQ FGERASEVCLDDTVTTEKELDTVEVLKA IQKAKEVKSKLSNPEKKGEDSRLSAAP CIRPSSSPPTVAPASASLAPQPLSNQGIMF VQEEALASSLSSTDSTPEHQPIAQQGCS SLESIPAGQAASDDL RDVPGAVGGASPE HAEPEVQVVPVGGSGQIIFLPFTCIGYTATN QDFIQLRSLIRQAIERQLPAWIEAANQR EEGQGEQGEEDDEEEEDVAE
7221	15272	A	7891	1	286	SPPTVVPASASLPQPLSNQGILGDE*VIL VS*ACLLARPARKRGGCAVPSGAEARDT QERTPPARAPGDAELGVRWENSSTRCF KSQKNITP
7222	15273	A	7892	3	417	PPPLWFNQDPHVESKGLAAGRVPVSTSQ GRTQFRGSAPPKDPLPRTGPSANRRVP HTFQPDISFPGSPKPPS*DRPHNPNSLRSP LVSHSVHNQAGRWAKVQATARERKSDT KSIWLWRWRRILKRTRSNSLYTLHG
7223	15274	A	7893	2	236	KKSNLRMLAEHGGSHL*SQLCRRRLRQEN HLISGGGGCSESTSHHCTPAWGTE*DFVS EKKKKKLTGWDPDSGRKWWC
7224	15275	A	7894	3	254	LECNGTISAHCNLRMLMSG*FSRLSLPSS *DYRRPRLRPANFCLVEMGFHHVGGAG LKLQTSGLPLSLPKCWDYRRRAHPLA
7225	15276	A	7895	1	185	RQSLALSPRLCSGAIHAHCSLEPLGLRQL CCLSLPKC*DYRHEPLSLACFLFYYPEH LT
7226	15277	A	7896	1	182	KLVGLEPVSTYSIRVSAFTIVGNGNQFSN VVKFTTQESG*IQFLSLKCFLLYLTPFFSF S
7227	15278	A	7897	4	329	AGEGGLQALILRDGAWPQPPSGD*QVKG LEPLTPAPAGSSQGP GPPIASSPVGQS KTDATTTKVGPVGGGQAPAMHQQLPP SPGDPAEAHTWGRSLSGMKGK
7228	15279	A	7898	115	408	HWKERGSLYPA*TOGSACVLPGQHLP RPQATPPTTAHLVPPQHCRPGPAAPAP* QGMSTPTTATLFSRLQGRQLPMGAPSG QGPWLYCRGEGPRA
7229	15280	C	7899	128	253	MNSPDWELWQDNSPQDSCVLIPRTCDH AASRRDRSSGVIE*
7230	15281	A	79	421	899	IASLFLIVKVEEVSQTAIWKKKKCDEYIP GTTSLGMSVFNLSNAIMGSGILGLAFAL ANTGILLFLVLLTSVTLISYINLLLICSK ETGCMVYEKLGEQVFGVPQGFVIFGAT SLQNTGGKKNMLFFT*LEYTHHTSFFSK WLFVRLLLLSRSEINLLFI
7231	15282	C	790	128	274	
7232	15283	A	7900	856	1071	SFALVAQAGVQWHDLGSLQPLPRFK*F SHLSLPSSWDFRCPEPYWLIFVFLVETGF HHVDQAGLELLTSGD
7233	15284	A	7901	87	395	RSGGGVPPRNPPLGGRGGGFFQGPQGFQI TLSPKGKPLFFLKSQNFPG*WAPPLKPPF KGG*TKKIFLTLEGGVPINGNFP PPPPGG KNFFSKKKKKKKKK
7234	15285	A	7902	28	403	GGTIYGNCVVPATVPAGSPGVPAVGGQP GPLPVL*RTSPETCPPLGVTTGSLCLAPY HLSLFGGHGLPGTPREAG*REGGNSLQL QLPNPKPFLPSRPEDPTWSPSSQGEELRR RKVRCDLKS LT



7235	15286	A	7904	1	609	SHKTNVQQCYCYCGPGDWYLMQLQC CKCKQWFHEACVQCLQKPMFLGDRFYT FICSVCSGPDYLRPLQWVDIAHLCL YNLSVIHKKKYFDSELELMTYINENWD RLHPGELADTPKSERYEHVLEALNDYK TMFMSGKEIKKKKHLFGLRNRVPPVPPN VAFKAEKEPEGTSHEFKLKGRKASKPIS DSREVSNGI
7236	15287	A	7905	440	608	CVKFLDTSQADTPKSERYEHVLEALN DYKTM*VDLFYVSL*GRHLVSIRNNGIV
7237	15288	A	7906	49	796	SHFIYFLTIVISSLVNEVC*SSIFLMNLQ VVLVYIFWLLLLYELCCRIFSHFVVCFTM FINIVTF*F*YLQIVFLYG*LGFFYGYVK NIVNILLHAL*FCLSHFGFIPLGTIFNI*Y EVIFLLL*G*SVVPALFIEKKQKQKTLFL LL*SAFSVVYWQYMQRSFMGSLLYWFF SCANVHSLHYFMIFKKIFDI*YQSPFTSLL FINSLWLFLVLCSSLYILEIAYHVSLKKA HIENLIGVAMNL
7238	15289	A	7907	178	565	KGGATCPESPQDRKRRGNLDMEKLYSE NEGMASNHGKMENE*QPQDQRKPQVTL YSGRQEVKRKGRKDRKQGNRR*GNV*R IKGKPESEGEAKEGKSERESESEMEGGS EREGKPEIEGKPESEGEPE
7239	15290	A	7908	3	413	VTGVLVYLAVERLISGDYEIDGGTMLST SGCAEAENIMG*TLHQSGHGHSHGTTN Q*EENPSVRAVFIHVIGDFMQSMGVLVA AYILYFKPEYKYVDPICTFVFSILRLGTTL TILRDVILVLMEGTPQGVYFTAV
7240	15291	A	7909	119	427	LESLSHKRSSPRHIVIRLSAKTKKSVLR AVRQKYQITYKRTPISLSDCSAQTLQA RRDLGPTFCLLKNNNQPIILYPVK*SFIN EGKIVFFREISPERIC
7241	15292	B	791	72	524	LPAPPGRIKRADLATRPSKVIRVRRGGRK RPVPGATLRKPVHGHVNLKQFARSLQS VAERAGRHCALRVLNSYVWGEDSTY QWITKPVHKHREMRGLTSAGRKSRLG KGHKFHHTIGCLAGQLGEGAILSSSTVTA NISKVCKIHT*
7242	15293	A	7910	13	235	DLINKISKAAGYKINTEKSVAFLYTNSNQ TEKEIKKAIPFTITTKNKTLYGINLTKEV *ELYQENFETLMKGI
7243	15294	A	7911	39	141	LSIRGLNIIKRQRL*DWIKQDSTLCCP* EIH
7244	15295	A	7912	1	285	QQRPPGLRPPHPRGQDQLWLKGKGGW AAQL*EGPSGGSRRGRVERERGRRRKGR KGRA*RGTRKAGGEGRRRETALASPLRG HRSPQERPRPTL
7245	15296	A	7913	1	452	TAKTTFFRNAHSHKLS*NVCKPVEETQR PPTLQEIQQKIDSYNTREKNCLGMKLRE DGTYTGFIVHLKLRRPGTVPAIRPQSI YDAIKEANLAVTTDKRTSFYPLDAIKQ LHISSTTTVSEGIQGLVKKFNGVDNPQKV ALFKRIHK
7246	15297	A	7914	1	484	NVLCGNNQISDLGILLPEVCMAPEEKGD KDDQLNKETEDYLSLFEGLKVTEDSL SYEDNQDDSDLLQDLSPEEASYSLQEN LPSEDESLSLDDLAKRIEIAEVVPTGLV SILKKRNDTVGDHPAQMQHKPSKRRVR FQEIDDSLDQESLGFGDGAL

7247	15298	A	7915	2	1121	HYVATDRFPFERVRILLYTYSYVPSFPS YTKCCFEFLTTFSSSLESKTCLGTESSKE SQHTVEPLGSSPCCHQMDVQTDSPSLSV TAGKDHMEELLCSAEATLALHTQSSSETA GSPSGPDSSDACCDDSRQLAQTEACQ DVARIEGIAEDPKVFLSSKSKTEPLISPGC DRIPPALISEGKYSQAQRKELRLPLRDAS EALPTDQLENNELNELQQPDLTDSGKS PQAQADSNSENVLCGNQISDLGILLPE VCMAPEEKGDKDDQLNKETEDYLNLSL KGCLKDTEDSLSYEDNQDDSDLLQDLS PEEASYSLENLPSDESCLSLDDLAKRIEI AEVNQR*STIKSKMAFKKHIVLNLIALFL
7248	15299	A	7916	2	390	SDSRETRVVINLKDSVFLYCKLFGGK NQVKNENGCKDWQHLSHLSKHEESEM HINNSVKYSLKSDLKKNKAIDAAERRL YENEEK*WCAVVVHVLYLSCFLGMMIR NLTLRKTSVLAIVSTIVL
7249	15300	A	7917	1	240	KRGEKAPETSKTTSTWRIPCRKRRLSNR DFPDLSTGEELPETCGSCLRRGSGREN*D AETWPAQCPECESKAAVSTRFLF
7250	15301	A	7918	3	420	EPLSSPLFCP*NQSKIHPPIFLAPTWPHP HHFPPGPGQPPFPLSTGSHLVL*QKPKGA HEHLSGIPPSLAQNPTWVPPHPGKRSSPH SATRPCKICPRLLAPSTLLTPSNLTGP*PL LPGALPGLLGPENFCTGCFL
7251	15302	A	7919	2	127	RFWDYGRIALVS*ADSESRFQRLSSTSSS GQQDFENELVGI
7252	15303	C	792	56	289	MNFTNFTYISGGGAGEYCAFSKLPGES HRIVWWNLWFFPRPRLLSACRCQPQRH LPCALWELVLVNPTGCSRISSE*
7253	15304	A	7920	1	346	DSRSPSPASPPTQ*CRPSSFPGPAPPRLW LAPPFCPPPPHGYGPFPAKRRGAALGL TRVLPPPGSAVRRSPGPGPSAWDKTLK MKQKKFGRSVGLWRELIRDCSLAELLSA
7254	15305	A	7921	184	291	
7255	15306	A	7922	481	716	VFFFFFFETECRSIAQAGV*CSLRLPPPGSS DSRASVSRVAGIVGACHHAQLIFVFWA MGFHHVGEAGLEHLTSSDLP
7256	15307	A	7923	4	423	VARERRLPGPQEGPHGRAAGSAPLAPSI APSPPGPPALPASHILGSQALPSPETPW*S PWDPPAPLALVSPWQFPFGPPAPATP*RS PLGLQTPQAPGSWAPPVPATPQASGLPA PHVPETPWASS*LALPVPETPWDL
7257	15308	A	7924	3	436	GYLSEVVEENTPPKMEKEGLEIMIGKKK GIQGHYNscyldstlFCLFAFSSVLDTVL LRPKEKNDVEYYSETQELLRTIVNPLRI YGYVCATKIMKLRLKILEKVEAASGFTSE EKD/PAGQKVQDCYFYQIFMEKNEKVG VPTIQ
7258	15309	A	7925	3	187	VLAGLELEDECAGCTDGTFRGTRYFTCA LKKALFVKLKSCRPSRPFALLOPVSNQIE RCNSLAFGGYLSEVVEENTPPKMEKEGL EIMIGKKKGIQGHYNscyldstlFCLFAF SSVLDTVLLRPKEKNDVEYYSETQELLR TEIVNPLRIN*YCSRFPIRLSAVTL
7259	15310	A	7926	4	343	KLEN*KMVLKEIKEDLNKQTDILFS*LQR LITVRMSILPKLIYKFSAPIQIPA*FL*IKIII KCMRK GK*TRIAETASSSSSPSQSFILSPK LDHRGGITANCTPPWAIK GKLL
7260	15311	A	7927	1	531	FYHADHAALKDEMTEY*VFLQIKRYLY HGRLLCKHPDAALLAAYIIQAEIGNHDS G*HPEGYSSKFQFFPKHSEKLERKIAEIH KTELSGQTPATSELNFLRKAQTLETYGV DPHPCKDVSGNAFLAFTPFQFVVLQGN KRVFHFIKWNEVTKLFEGKTFYLYVSQK KKGIGSCP

7261	15312	A	7928	115	348	KSCLNIFGLKQTTSSLRWNRVKK*AHTY G*QLIFNKGAKIIHWIKYNPANGICYWISI CKKVNLDPYLIPYTHIQNGS
7262	15313	A	7929	4	430	AWLSALNSSLPATWSCCPSLGASHKLQ WEATSPTVPPRAPSQVKCAACEPTPTLP CLPFQPPPSLSSQAQVLLTGHPG*GPLR RQGEGLLRSGCQARLTQPNSEGGAV S*TGRPGDGAVGEAAPETTRDCPTAPP AS
7263	15314	A	793	24	452	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFFDSFGNLSASAIMGN PKVKAHGKKVLTSLGDAIKHLDDLKGT AQLSELHCDKLHVDPENFKLLGNVLTV LAHFGKEFTPEVQASWQKMTGVASA LSSRYH
7264	15315	A	7930	1	380	GTRLLVRYTPKEPVWPTFVEVFGDLG QVGPE*C*HPEAKRMPCAQDYL SVLN QLCVLYEKTPLSDRDTKCTESLVNRRP CFSALEGDEAYDPQELNAETLTFHADICT LSEKERQIYKQTVL
7265	15316	A	7931	2	388	NVQKSLAFLYTNNQSQVESQIRNAIPFPA TKRIKYLGIPLTREVKGLYNENYKTLLE FREDPNKWKNFPCSWVGRINIIMAMLS KAM*RFPRVHIKIPGTFTLGKPIKFIW NQKRAQIPRATRA
7266	15317	A	7932	72	373	TSTLKKLEEKQTSRRKEIKIPAEINAIEN KQIEKISKTKSCSF*K*SIKITNP*LKQ*TKE KI*INNIKNRGQVTMAFVAIKRISREYC Q*LYTNKFNI
7267	15318	A	7933	2	259	KQWKPAAPPGPANPLPRGTSGPE*KGPHS DKAKPFPSPFFKKRQWGGAPSRSKARG KGQPPKGGHLKGPLRVVNGV*RAPLNR TAA
7268	15319	A	7934	3	335	QIKPPRLRDTPHSFTPYHPVRRGLVYFPS APSPAKGEQLHTRTRHNVLGSHPRRLP RSS*SSHRVTRGSLGSVPPARSTSYGPSR QWDLACPLTPEGVWRTKNNKPEAL
7269	15320	A	7935	37	281	GPSPYTDPTPTYP*LTLLTNPRNTSTLPP TLHLPSRPTSPSPSTSLPPSLVLRFFLKIQ SGKRRAYPEHFWGQNGERKV
7270	15321	A	7936	13	234	DLINKISKAAGYKINTEKSVAFLYTNSNQ TEKEIKKAIPFTITTKNKTLYGINLTKEV *ELYQENFETLMKGI
7271	15322	A	7937	3	426	VLEELPISVLFNSSVPAWQWLAHVYHS HGMMAAQMCYIKTLQLASQRRS WWA KLSSLWRLALLALKGCMANISNDY WPS LVQEATTEALKLCFCPLAVLLALLQFK RKMVST*TLCLLERVVYHPGPSKFIGSN WPAV
7272	15323	A	7938	132	393	ETNSLFGPQVKRQGNLQ*LNPPPRGFK KFSGTLRLRRSGNYRPSPPRVFGF*GKRGL NWWAKGGLDLS*NNPPWPSSQGARIM GES
7273	15324	C	7939	170	394	
7274	15325	A	794	38	604	APSPDAMGHFTEEDKATITSLWCKVNV EDAGGETLGRLLVVYPWTQRFFDSFGN LSSASAIMGNPKVKAHGKKVLTSLGD AIKHLDDLKGTFAQA*SELHCDKAAM WIPENFKLLGNVLVTRFGQSHFRQKNF TPEGCKASWAERWVTCSWPVALFLQDT TEAQLPMNAELFKDKAFILASNYK
7275	15326	A	7940	107	379	PPFVAQLGGKGGNLG*LNPPPRG*ROFSS LGPPISGNYGPPPSRVIFGLRKKGVSPS GPGGFGIPDLKIGPFNPPKGLG*RGGPWG PNQ

7276	15327	A	7941	83	409	PEISGFFFDHHGKLETPKRNFGNYPNT WKLNTLLNDQGVIEGSSSSLKWLKTN EKGNTYQSL*DTAKAVLKGNLTAISAYI KNREKLQNKQCIFNYPEKQEQM
7277	15328	A	7942	15	334	QHFWENFHVTKDRINTGERQETDWKIFA TYLMKKV*ISRKCYNYSYKLVRRKKQLNR KWAKEKNKQSQKKKQSQ*TKTVQPQ* NKRND*RYLSPISLAKSNKLN
7278	15329	A	7943	1	400	ESRLICQQMYMGKEKPGCSCCEKAFSNK SYLLVHQQTAAEEKPYGCNECGKDFSSK SYLVHQRHTGEKLHECSECRKTFSEFHS QLVIHQRIHTGENPYECCECGKVFSRIDQ LVSHQKTHS*QKPYVCNEW
7279	15330	A	7944	46	364	SHLPNSSFEQKYAYEFVPGYQKHYSLSK FPWFFFAEMEKLILKFKWKS*SHITEAIL RRKNKVGDLTSDVKSSL*RYDNQLLSV *Y*YKHRRIGPWDHGRPDHIL
7280	15331	A	7945	3	312	VPCSQLNKAITSTTRCLRGFVCSSSCYR RRARERGMEKQTRERERQR*RRERQR GEERQGGKREPHSRARGGGGSRERER VREL*SDSDRSLEREALLR
7281	15332	A	7946	225	720	GLAHSVVRHSSFWGHLQDSGPLVPPGA GQGSGLLLAAEWVGKASWPAPACPT PHSEALVCSFRTSPPTPHAHGPGVSGPA SVLAALRLGLHLLRGCGGTPTSPQTLQ DEEAN*GHRGHGDRLLRLTQAPTAQPL WHRPWQKDWPNLLPRLSFWCRPPRP
7282	15333	A	7947	43	418	AYWGRKTPWLTISFVWPTPGSPYDNGR PLCYSDSDAVLLCFDISRPETGDSALKKV RLDQLSNL*LSMRKKESGPCHECLLLTS RNGSQGRKRFAQGHITISYSSGTGTWVSL PHCLPPFLLSH
7283	15334	A	7948	2	221	AGPGGSPHGYVGSPLRISTRHLCAATR SLLHIDPLIVLPLVDLKDRII*NLWGLQP LPPASLLQPTALYS
7284	15335	A	7949	1	409	SPGTCGRRPQTM/PPGAPDFPAVEGRSLG LSPSQGGPAGAGGDAGPQEDVRQPPGEL AHGPLLPAQTG/SPGPQGLWLHRNPTS/G PPSQIGEGAEQGDGVADAPQIQCKNVL KIRRRKMNNHKKYRKLVKKTRFLRRKV
7285	15336	A	795	23	153	
7286	15337	A	7950	2	361	YSTSPAGQVGRLSQSGGPAGAGGDAGP QEDVRQPPG/EAGSRPAASCPDWIPG/AA GHVAPPQSYQCPSQIGEGPGGTPEQTA DQVRERPEAHLAEGGAKGSPRRAGRPPR STCGANESG
7287	15338	A	7951	337	1067	NLKAHPRRPFNPPLASGPFPLILAGADTW *GIGGWKPTSSLRVPGIQSGAGSERGREP SSPGG*RTSSWGPASPAPAGPPCEGERP RLPGPAGDVL*RETADPAAQHSMRQAK AGGRLPKERPSTAGKSGAPGAWSVGGG HRSQGSSTRLLKTLVLRPPSGTSGPSRSP RSAAATRRFLRTAPAGVLAAPDSALAQA PPGPKGDGFRGCGPWYYPQVQNRFRITQ GPDSQRADGSAGSRLRK
7288	15339	A	7952	127	440	SLRYTFLYTFPILEHIIVLMQQTCLHGF SIYLLIHTFILQIHPFHTLFQQTCSIIQLY FLV*YFAYVYTFILYLSYFPLYYY*AC FETFDSFNEIGRV
7289	15340	A	7953	2	341	
7290	15341	A	7954	288	802	GVIMATSELSCEVSEENCERREAFWAEW KDLTLSTR/AEREGCSLHEEDTQRHETYH HQGGQGVLAQRSPWLMRMGILGRGL QEYQLPYQRVLPPIFTPAKMGATNEER EDTPIQLQELLALETALGGQVRDRQEV EITKQLPPVVPVSKPGALRRSLSRMSQE AQRG

7291	15342	A	7955	72	488	HEAGSRMNGDHNSDVFSQD*QDFVQHF CQIGRVLTEDEMGHPEIGDAIARLKEVLE YNAIGGKYNRGLTVVVAFRELVPRKQ DADSLQRAWTVGWCVE/ADDIMSSLT RRGQICWYQKPGVGLDAINDANLLEACI YR
7292	15343	A	7956	1	236	GTRVVAFRELVPRKQDADSLQRAWTV GWCVELVRGVGQGRRSFLQWW*LGWE GEGWA*NFLGCVCVSLSLVCYQGI
7293	15344	A	7957	317	1395	TGDQNSDVYAQEKQDFVQHFQSVIRVL TEDEMGHPEIGDAIARLKEVLEYNALIG KYNRGLTVVVAFRELVPRKQDADSL PAGPWTVGWCVELLQAFVLVADDIMD SSLTPGNRSCWYQKPGVGLDAINDGN LLAEACIYRLKLKLCREQPYLNLIELFL QSSVQTEIGQTLDLLTAPP/QGNVDLSEF TEKRYKSIVKYKTAFFYSFYLPIAAAMYM AGIDGEKEHANAKKILLEMGEFFQIQDD YLDLFGDPSVTGKIGTDIQDNKCSWL VQCLQRATPEQYQILKENYQKEAEKVA RVKALYEELDPAVFLQYEDSYSHIMA LIEQYAAPLPPAVFLGLARKIYKRRK
7294	15345	A	7958	3	484	ETPVPATSAAIRILVLLPSLRVTSPGRQGP SVDRVVFPPFKFRPERSRHAAAGPNVVR PQPKPHEVGGERGRPNAPANSFRSCSN LSPQYSLPKQNKSSNP*IPNKPTPPASPS GRTDGLSLLQPLPGSDGQASPTMRSSPAI SSALEIEFGKTNPFH
7295	15346	A	7959	3	432	SGSSRPRGSAQPRPGPGACGMAAPTSE*S SPPAWQPRPPCGGLHHCPACVHPRDSDG GSPAPAAACCHTPHGRPWPEFEGQRPQT QPQPQGPWVRPVLTLFAGRVASVPLVS LCAWASGSQPGPPSGSGRALCTGLGAP PA
7296	15347	A	796	84	358	APRADAMGHFTEEDKATITSLWGKANV EDAGGEALGRLLVVYPWTQRFDSF/GQ LSELHCDKLHVDPENFKLLGNVLVTRFA IHRKEFTPE
7297	15348	A	7960	2	331	VCKLQQLPAHSGSPNIHISQLCPSHAW GLLVSSGCVTLRESFFLCFALVLQRKS SSLGILSCPGSIFTALNSTNLYILGFLGGF CLVFF*DRVSLCHPGWSEVVQS
7298	15349	A	7961	25	364	LFYLYHLLFFGFLFLFLIKLGSSLFINFS KKSVL*FTNWIYFSVLFTDFCFIHSFFG FSLIYFIIHVGFLKFIGFILSFI*ITVfyGQA QWLTPIVILWVAEVRGSL
7299	15350	A	7962	174	469	NGPP*RKKFFLSIPRKIWAPPGFF*/EGPPL FFFFFFLTESCSVA*PGMRWHNPGLLQPL PSGFKQFCSLSLSSWDYRCPLPHPANFF VVVFLVETFC
7300	15351	A	7963	65	2774	
7301	15352	A	7964	243	687	PHPIPHSEENFEFLIVSSTGQTWHEAASF EERDAWVQAIESQILASLQCESSKVKV RV*GGVEDWPQELTLVLTAGNDTAEVV *EESRGV*EGGAWRQSQCPQPSLQLR TDSQSEAVAIQAIRNAKGNISCAHASAD AWVEA
7302	15353	A	7965	3	368	PSDPEVAGDPIFPFGPPSCPEVKDKTKSSI SLGWKPPAKDGGSPIKGYIV*MQUEGTT DWKRVNOPYKLITTWECGPNLKLRLK YRFRVKA VNEAGESEPRDTTGEIPATDIQ EEPEVFID
7303	15354	A	7966	3	78	FKIQNLIASTVRTVMVADCSRFDSPDLLL EAGDPATSPCRIFDLGSDNEEVVAIPDPS HPKEGLSYSLSVLLGRSLPRCLISCIYPL CLSVASGPHKFY*PHCQHRPHGDGGRLO PLRQP

7304	15355	A	7967	195	345	NDISANPAIKKFWKLPKCPTTEGWLNT* LYIHLVEYYATLKVCGDLYVR
7305	15356	A	7968	2	801	WRNSADVWYCGGPLLDTLPSNWSGT CTLVQFAIPFALAFQPEKEKPOHRKIRE APYGSFDSQVYLDATGVPQGVPHKFA QDQIAAGFESIFWWVTISKIDWINIYY NQORFINYTRDAVKGIAEQLGPTSQMA WENRMALDMILAKKGGVCVMIKTQCCT FIPNNTAPSGSITRALQGLTALSNELAKN SGVNDPFSGWLERWFGKWKGHASILTSL AARIGVVILFGC*VTPCIRGLVQRLIETVL TKTSLSSPPPYSD
7306	15357	A	7969	113	362	WLHAPECFSQCPSQSPS*LCQGPESDP DPRSVVGPPLSQAGSPGRPGGTVITLCLL WPHLAPLFHLWSPGKCTSLLVVQHS
7307	15358	A	797	1	428	
7308	15359	A	7970	1	955	MTQPFNYSAFERIIFAGSPGHTVFSSERSL LVRPRSHPEPKGEHYVTGSPTPENQRTS AAMSKPHSEAGTAFIQTQQLHAAMADT FLEHMCRLDIDSP/RRPLPATPQKPPW VPWRPPSSAAVGP*SSSPSLADVKSQVL VTCCLACHCHWQREEWVLVTLGQGCLS VSEFRV
7309	15360	A	7971	113	716	RSLGQCQHSWQSSPGGPRPQPRPGLGP CTAQGRCHGTGGPDE/TVWGFRVTAMM GARGRYL/AHLVSRLEMWGSYIRVHFT RPQEVPSGRSNSSPSHPAQ*GLWPLQHLL RRTTPEARAAPHIPSPSAC*VTICPLPPFH RPRDQDHLAPARSASPTVP/PQPMVGRTP PTP*TLTQRGSPGPMSPAPIPLAANDSDK PSST
7310	15361	A	7972	244	1510	KFPKKKTPPHLGMEAITLWQFLQLLL DQKHEHLICWTSNDGEFKLLKAEVAKL WGLRKNKTNMNYDKLSRALRYYYDKN IHKKVIGQKFVYKFVSFEILKMDPHAVEI SRESLLLQSDCKVSPEGREAHKHGLAV LRSTSRNEYIHSGLYSSFTINSLENPPDAF KAIKREKLEPPEDSPVVEEVRTVIRFVT NKTDKHVTRPVVSLPSTSEAAAASFLA SSVSAKISSMLPNAASISSASPFSSRPSL SPKSPLPSEHRSLEAACHSDSDSLEPLN LSSGSKTKSPSLPPKAKKPKGLEISAPPL VLSGTDIGSIALNSPALPSGSLTPAFFTAQ TPNGLLLTPSPLLASSIHFWSGL*SKFVP LSPARLQGPSTLFQFPTLLNGHMPVPIPS LDRAASPVLLSSNSQKS
7311	15362	A	7973	1	1230	
7312	15363	A	7974	3	358	LPAPGARPEWLLFPAPVVGVLWCWTPQS IISLHFFLNVPVQTLSSSSSSSSP*RT*LP MTLS*VGAVSGFKPISRPPPEPHSGHNSPS LSQPSLTILVSSNSPGSGKARGPQCQAW L
7313	15364	A	7975	194	372	LFG*LKAPPPGLKQFSGLSLRRSGNYGPP PPPPVYFFVFLKKNGFPLVTQGGLNLRT WG
7314	15365	C	7976	238	459	
7315	15366	A	7977	1	505	AGGAGEETPHQESQRQGCALPQEPPLYP PCPAIHPPPLPLGGLLLFPLSLALSCMV PPPWAAQEGI*MENHQPPPEKKRLWGPPP ANSPPPARPLNPHLFQAGTGCPPCPREVP TPSPWAEPPPLPGPPSEIAHLTTVRRGA ALANVNHENISDTDENKLNAFVTA
7316	15367	A	7978	39	141	LSIRGLNIIKRQRL*DWIKQDSTLCCP* EIH

7317	15368	A	7979	8	532	FNYLLKFKIRPPHAFQMFPMSSQGKEG PETAESLSHHGCLSL*R*EISWAPPTCG AFPSSAATLGASPVLGASVPLGAAGMQR GRRGHRIPGDTWGLLLPGAGGTDAESPA HNWEP*TSVPPSRPGHPSGPSAGLQSGRP PL*GDCEWGRKAGKGHAY*VGPPELHT LPLSDP
7318	15369	A	798	2	476	VNVEDAGGETLGRLLVVPWTQRFDFS FGNLSSASAIMGNPKVKAHGKKVLTSLG D/ASSASAIMGNPKVKAHGKKVLTSLGD AIKHLDDLKGTFAQLSELHCDKLHVDPE NFKLLGNVLVTVLAHFGEFTPEVQAS WQKMAEDVTGVASALSSRYH
7319	15370	A	7980	1	9786	
7320	15371	A	7981	27	13822	VPFSVAAAEEPAQPARAARPRGRSPGA APPQLAMDPPRPALLALLPALLLLLL AGARAEEMLENSLVCPKDATTRFKHL RKYTYNYEAESSGVPGTADSRSATRIN CKVELEVQQLCSFILKTSQCILKEVYGFN PEGKALLKKTNSEEFAAAMSRYELKLA IPEGKQVFLYPEKDEPTYILNIKRGIISALL VPPETEEAKQVLFLDTVYGNCSTHTVK TRKGNVATEISTERDLGQCDRFPKPIRTG
7321	15372	A	7982	40	400	ELFGHIALQTIAYSILWDLKFLMRNLALG GGLLLLLAESRSEKSMFAGLMMFTLL HFDASFFSIVQNIIVGTALMILVAIGFKTK LAALTLVVWLFAINVYFNAFWTIPVYKP MHDFLKY
7322	15373	A	7983	1	900	FRAAGAGADGREPASERASRAEPPAVA MGQNDLMGMAEDFADQFLRVTKQYLP HVARLCLISTFLEDGIRMWFWQWSEQDY IDTTWNCGYLLASSFVFLNLLGQLTGCV LVLSRNFVQYACFGLFGIIFYTIAYSIL WDLKFLMRNLALGGGLLLLLAESRSEG KSMFAGVPTMRESSPKQYMQLGGRVLL VLMFMTLLHFDASFLFLVQNIIVGTAL MNLVAIGFKTKLAALTLVVWLFAINVY FNAFWTIPVYKPMHDFLKYDFQTMVS IGGLLLVVALGPGGVSMDEKKKEW
7323	15374	A	7984	2	397	GRVGRPTRPPTRPPTRPTRSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSSSSSSSSSSSSSSSSSSSS PFFGVSPCVPEILKSSSPRIGCPRN*APFFK RGNL
7324	15375	A	7985	5	230	IGNFKNVFSIVNITTRQNTSTDIENLKNN HV*NTVSNS*YTVFSSACGTFTKISHLR H*TSLDKF*KLDVLWS
7325	15376	A	7986	1	366	NPSIVGGQDLCKGNYKTQIKDLLADGSS SSSSSSSSSSSSSSSSSSSSSSSSSSSS KTPTSFLIELGKTIVQFL*NQKRV*ITKVL SKKPQKTENKTKLEAFHSTLCYLP SNYA TRL
7326	15377	A	7987	3	361	ISKKKFFLKGFFFLGFF*KKPPFFFFPPPPP G*RGKKKIFFFFWVKKNPLEKNFFSLFLK KGGPPTPPGGFFFFFKKKRAPQGGGPPKI FFFFFFFFFFFFFFFFFGDGVLLCCPGWSAV
7327	15378	A	7988	2	359	GLPS*HYSPPQLPH*SHSHTIAPKAEEKA NRKETHFSRSPQQISGRCPQDKSLAKV DFLDQLRPMVGHSLGRGPHLPKHMPT PEQIQEEPEAHHLPLVCEQLPLLPWEDF VYGSSR
7328	15379	A	7989	490	583	NH*SPMFGYCICVCFETESCSVAQAGVQ WYNRGSQPLPGPKGFVCLSLPSSWDY RRRPP
7329	15380	A	799	23	349	
7330	15381	A	7990	1	129	QPGPEGKIRFFLKIPNLTPSGGKSLKFPLF KRVKPENCLSLRG*GCN*PGPEGKIRFFL KIPNLTPSGGKSLKFPLFKRVKPENCLSL

						RG
7331	15382	C	7991	96	380	
7332	15383	A	7992	202	499	ILGFVQWHDHSSPQPKTPGLKQSSCLNF LSS*DNHRHMPPLANFFIFVEMGSCYVA QACLELLGSSNPLASVSQNAIGTSMSCQ TQLFLLLLNRFPAL
7333	15384	A	7993	1	206	NSSVFLHLQALGIPLHLAYVSVFPPTPG* GSGHGRSLLSISVGQGLPPQRPSPASPFH LDIIHQGPW
7334	15385	A	7994	2	349	TCHRRKRRNPRHGEVGLGYPTDESAFP SAPALGPGEPRVPGSSSGRASGH*WYPN AVESP*EEGEL*GRRGETLVAEKKKKPR HGEVGPSPMEKKCLPISP*AGPRGPRRP WF
7335	15386	A	7995	269	364	GHLAIGHPPFP*MSFNHGRKTRTWNYLG SEEQ
7336	15387	A	7996	1	314	PSRSFISNH*PHQDV*PRFFNGIHL*YSHT PGINHVEPEPNSTRSKACWEGFGSSNSG NGSFLGAR*VDVQEVLTITWRVIRVWN* CFGRNSAPMAQSKSSSES
7337	15388	A	7997	65	354	YFYIYFSIYHFIAPPYFSLVFLHLCVPL SSFLSR*KIHVCLKDFKVNFS*TIPKLSKL LELLESISLFFL*NVDIFIILEIPLYSAILK RVYF
7338	15389	A	7998	1	957	
7339	15390	A	7999	97	4146	
7340	15391	A	8	190	383	TRMIHITSVYSHPHQAQLRGCEVLRHKA HLVLP/WSTSCSGIPRGGQTAQQGYSR CFLAWSLEA
7341	15392	A	80	44	377	TFFLYLENLNTAVRFWKLPYIHCFNKPG GAGLICIAFWLTKAFVFGSDYSLVTVR VK*VFKPFLKDVEIRR/FTWTIRQWDVA FLRVPDYHALIKQPMLETD*MRLANS
7342	15393	A	800	17	535	APSPDAMGHFTEEDKATITSLWGKVNVE DAGGETLGRLLVVPWTQRFFDSFGNLS SASAIMGNPKVKAHGKKVLTSLGDTK HLDDLKGTFAQLSELHCVKHLDDLKGT AQLSELHCDKLHVDPENFKLLGNVLTV LAIHFGKEFTPEVQASWQKMTGVASA LSSRYH
7343	15394	A	8000	97	2728	
7344	15395	A	8001	1	2295	
7345	15396	A	8002	97	4027	EKEPYEEISAEADREPQQLQNYWSEVRY TVRCIYRQAGTPLADDQDQSLVPDKEGV KELVDRLCERDPYQLYQRLEQQAREYV LEMKVRLRLQLSAAAKVKAPSGLQGGP QAHQFISLLLEEYCALQAARSISTFLGT LENEHLKKFQVTWELHNKHLFENLVFSE PLLQSNLPALVSQIRLGTTHDTCSEDY STLLQRYQRSEELRRVAEEWLEQKRI DAYVDEQMTMKTQKQMLTEDWELFKQ RRFIE
7346	15397	A	8003	1	450	GVPYKRHIEGF*PGLNGPLKFNGPSSSSS SDGLRLRFSGGSGGQSPNWVPLGSYQGR SRPVPPGGSSAEPFPPSPASGGTHVPQLR ALPPLHGHSAAPHLSLALTVPVPPVVRT L*GHWGPGPPTLDAPPSPSHLQVPLSSQG GIPPHWT
7347	15398	A	8004	16	303	GENPLMRWPEALPGVFKTCFSPPT*GYG GGLMFLCHHADSINFSAFQPINNADFIVP IEIEGTTQVSCQPDHTQPRGWGVCLLP HLYWGPPPISG



7348	15399	A	8005	146	808	RIFSLCSAALSCKHGNPQDCSRRAPGNV PAAISRAPSLVLGLRARTVTRKGGLRPR KGEQGPSPSPDPAVKGPGAEPGQARFAP VYQILIGAPRWEPLLSTGGYTVSGSSPVV EVGTRANQPRQ*ALPASHLPPLASRSSSS SHLYTAAPPLVSRGSGSAGRALDSSFP QHSLAKPRPSAGLEAPGHWGRTGGDRR RKGTGGEPTFAEVEALPASARP
7349	15400	A	8006	111	369	FGPGPPL*SPLF*GSSSSHSGVGK*NPSFL PGGTPVFFKNPKFPPPWGGPPVSPPLFWG GETGNWGNPGGGTLEGPGYPPLALPGG K
7350	15401	A	8007	85	394	DWRRRRRDRSS*REDCQSTIYVRKRAK SNCWCWSKEKSKSHERDSIPRIEEKRMR SRSKGRDHENVKEKEKQSDSIGNDQEGS RSREKSNQFDSKSNERDH
7351	15402	A	8008	2	2255	
7352	15403	A	8009	1	1845	
7353	15404	A	801	17	533	
7354	15405	A	8010	12	450	SEPP*ITSVDPRVRGNASTGYGKIWLDDV SCDGDSEDLWSCRNSGWNDCSHSED VGVICSDASDMELRLVGGSSRCAGKVE VNVQGA VGILCANGWGMNIAEVVCRQL ECGSAIRVSREPHFTERTLHILMSNSGCT GGEASLW
7355	15406	A	8011	121	342	QNESVVHMKTF LAVFKLPLKIRQIKCIYI FYN*ELKLYSVILKYFFLYDFRPVCLVLS EIPFMSTWFLLVSTFR
7356	15407	A	8012	3	383	EKGPLSPKVLFNHLCQKAPRFKDFQQD SQELLHYLLDAGRTE*TKRIQASILKAFN NPTTKTADDETRKKVKTYGKEGVKMNF IDRIFIGELTSTVMCEEANISTVKDPFIDI SLPIIEERVSKP
7357	15408	A	8013	18	280	KCRSRN*TA*FHRLNAKALSLTLLNVY QKKHLVEILSYHNCDSQTRNAPELDCLIR LQAQNIQQRHIVFLTGKESTPKLSTMNIG M
7358	15409	A	8014	3	271	FFLRQSHSVTRLECTGAI*AHCNLCPLGS SDSPASAS*VAGITGMCHHARLIFVFLVE TGFHHVQGAVLELL/NLMICPPQPPKVLG LQA
7359	15410	A	8015	609	921	FYLSEEAEEEEFFETES/HLLSPRLECSG MMSAHCNLRPLPGSSDSPASAS*VAGITG GHHPAQLIFVAF/MYQPGFCHVGQAGQQ LLA*VICLPQPPKVLGITGA
7360	15411	A	8016	140	346	FPPICYLLEIGSHSVVQAGVQWHRHSAQ YP*IHCHKQSSCVSLMSS*HYSHVPPSPG NILL*RRGSCV
7361	15412	A	8017	2	348	AGVPPGNPPLWGEGGGSPRGGLKPG FPQRGNPPFFKKSQTPPGGGPPLIPPPW GGGAGGSPLPQGQRFQ*TKIGPFPSPRGK KKKPPFPKKKKKKKRKEKSEMPGFMV LNA
7362	15413	C	8018	282	497	
7363	15414	C	8019	267	473	
7364	15415	A	802	160	434	LISVIPALWEAKAEDHMRSGVQDQPGQR GKTPSLRKIHRLARHGGMHL*SQLLGR LKHKNRLNPGGKSCSEPRSHHCSSAWAT DQDSVSKK
7365	15416	C	8020	435	821	MKSRVIGWASGLKNEIFFFFWDRDR YRAMLPRLVLNLLFLIEPPVSILVKHWD YRHEPPPRXRLPFCMMRLEGPHCFRDF ATYKKQSVRTVAGLFSLIKFSAHTNLD QRIWDLNPISGYFPN*

7366	15417	A	8021	121	818	HSKGSQVQSPGPEPSSAGPKPGAQPOPT WGLAAPEEGREGGKCGRHCRNSKPLSQ PCAGVWSGRGAEEGGAGPDHPARPTGP PSSPSCSAGLPDL**GLKPPLEASSMDPGF VLEGGPRVREGVCQDGI*A*ELEEVPSPG GSATSGAATLSDRRGNGASQARLP*PS HWLPRAK*APQG*ASPGSPTACPAHPHS WKGSAGPGMGRGRVVGDRGGAWGT GSHCNPTPSS
7367	15418	A	8022	11	368	SFTCCFQMHTKLLCLNLTCLNTFLSTGAFF LIVLTWLSPIAVRLSLNVISERPFLFILSVV DPCAHLIYLSLLFVS*VLPQYVIALFVPH KRM*ETMYACLPVCP*LLTACLEHNCSEI
7368	15419	A	8023	3247	5031	EGLRGTALLLTGGGRGP*GQPQQ/PGGP ASSPSAAPGPAAAEACSTALWPTVSL RAPSPCPPQAGQGYGSWG/GEPG/NSM ASGGDG/EPLSQGLAPAGTGLARLQGP GHWAVSLWPSLRGFGPGQTGQSPLSQP HSALTGRGRSPGALGPPPPQRPQRPAP DPARPQR*TPLTAGATTTPQHLPGQNCR CSLLLLFLLLLFLLLLFLLLLFLLFFLFFL LIFLLLLFLLPISLRNRSQWDLGGGEQ HVREAHPPDPVEQPRFVSIVGEVSFEVLV GQTQRHSSWEAHLKWGRHGEHLGLEVI GPLPNPRKAWMPHLLQLGPRDAEHRGH ESVVASSEGRVAPVGRPHRAALSRAAAL NEGTTGGARGAAAAGVRVMLRLQRGGG EHGGRQSSQGA VPREGVPRESVLLQLSL WACGVRLSPSRAGSRVQG
7369	15420	A	8024	87	567	KQPPPHGESAAWAATSRPGWWLLCRPA EGRTPGWTAFDVHPTLMQKLEHSGNFS GQSPQCQLEALPRPSTCPLGSSRSGREG PLPPT*ELFPNGQSVRCQVGGPGYDSWC PGPGPAPCPPTP*M*GPQALTSAPGNK HPGLELGRRGPERAPGPF
7370	15421	A	8025	2	347	KALACPPTCCVLGVHHA VSAGFGPHR PLVRRHIAPAGHQVLSFLHPTLCCHPKS NCTPCGSRRAVPTPTPLPAPGPQAFCPVP GSHWLAWSPRGRSPPTSVAPTQPY*QPP SC
7371	15422	A	8026	3	359	HEGTVQQPQARGLYEDLLMSEGENDED DAGSDDNGDNIFSAIHLSESGRSDA*FG GIRPKQSRMLKENTRMVMDNEERLLFY EGDCGEASHGLEDSCLSYGSYEDDPK WNTQNTSFC
7372	15423	A	8027	2	424	
7373	15424	A	8028	3	456	PQTQREPTMVLSPADKTNVKA AWGKVG AHAGEYGAEALERMFLSFPTTKNYFPHF DLSHGSAQVKGHGKKVADALTNAVAH VDDMPNALSALSDLHAHKLRVDPVNFK LLSHCLLVTLAAHLPAEFTPAVHA\SLDK ILASVSTVLSKYR
7374	15425	A	8029	3	198	RQGS SVTQPGVQWNNLGLL*P*PPGLK QSSYLSPSSWDYRCVPTRLANSYFKFI* YVFFCLF
7375	15426	A	803	1223	1338	RWPLWSFIIETKRRTL*SQLLRRLRQENL LNLGGGGCS
7376	15427	A	8030	1	346	LFAQPNPVTFKIRIYCMSKDIDKVRARP PEWEKICANHVNKGLGSRIYKVLLLE* KNIVRLNQKANAQFYAGYKLRCYRKFS NKSIVNE*KVLLFMR*EYIPVSTHFICCVI L
7377	15428	A	8031	60	523	

7378	15429	B	8032	68	679	MGKEKXHNIVVIGHVDSGKSTTTGHLIY KCGGIDKRTIEKFEKEAAEMGKGSFKYA WVLDKLKAERERGITIDISLWKFETSKY YVTIIDAPGHRDFIKNMITGTSQADCAVL IVAAGVGEFEAGISKNGQTRHALLAYT LGVKQLIVGVNKMDSGTGIAILTGD FPSLE PRHVSTWLQHVVITPTRNWHKCYCVGV VANFLN*
7379	15430	A	8033	53	1497	KLPLKAKMGKEKTYINLAVIGHVDSGK STTTGHLIYKCGGIDKRTIEKFEKEAAEM GKGSFKYAWVLDKLKAERERGITIDISL WKFETSKYYVTIIGAPGHRDFIKNMITG TSQADWCCPELLLLGVGEFEAGISKNGQ TRHALLAYTLGVKQLNAGANKMDSTE PPYSQKRYEEIVKEVSTYIKKIGYNPAT VAFVPISGWNGDNMLEPSANMPWFKG WKVSRKDWQCQLGTTLEALDCILPPT RPTDKLLRLAFQDA*QNGGIGTVPVGR VETGVLPKPGMGVTFAPVNVYNGK*KS VEMHHEAFECKLFPDGDKCGAFNVKNV SVKDVRRGNVAGDSKNDPPMEAVAGFT AQVILNHSGQISAGYAPVLDCHTAHIAC KFAELKEKIDRRSGKKLEDGPKFLKSGD AAIVDMVPGKPMCVESFSDYPPLGCFAY RDMRQTVAVGVKAVDKKAAGAGKVT KSAQKAQKAK
7380	15431	A	8034	3	309	RFTGHYRMLSGEKPWEWIEWGKRLSSN TALTQHQRHTGENPFECCKEKGAFNQK ITLIQHQRVHTGEKPYEC*ACGKTRFWG GRFILHQNLPQTQKTPVQA
7381	15432	A	8035	3	366	RDSVVEILFEQDNKEQSVATLILDSLIQCP IDTRKQLAENLEMMFDVGKTQPPLKRA FSTEK*KFD*/ITNLASYQIFNQL*ANCTK YVGC FVIEDYSGSESILCLFALIYNSFDF VSLV
7382	15433	C	8036	310	546	MGIMSVPPHPQNVDPYPLDGEKILHILGF NPEIQLWEILFEQDNGRAISWPLLILGFPL YSVPIGHQGRQLGRRNLGRS*
7383	15434	A	8037	97	333	HRIRPICSQYMEKVYVTKNNNYRILEID MNFFFPPETEGVGGQVLEVMPEELKPS IFFFF*DRVSLCHPGWSAVVQS
7384	15435	A	8038	250	378	TESLYLNTIKATYEFKTANITLNNEMLKA FSLRLDTR*EHSLS
7385	15436	A	8039	280	759	GYINNGGRKRRTELKPTERSCRAEGGG VEGGPPACPPPTNCLQRLQPHLGSCTEIS GQERE*GYINNGGRKRRTELKPTERSC RAEGGGVEGGPPACPPPTNCLQRLQPHL GSCTEISGQERESGGGEGNSGPNNRVH GFSKAGHGLGVGEEEEERQLWL*TGRK QRPNIPIRRLPQASLHLPASPQPAVPG ALSSPRRWQPASHSCSPPRHTKS
7386	15437	A	804	1057	1354	SQHFGRLWQVNHLSGAPAQPGQQGKT PYLLKIQKLAGRDGARL*SLLRRLRQE NRLNLGGGGCSEPRSCHCTPAWVTKRD SFSKTNKQTENKRRIL
7387	15438	A	8040	1	401	ILVLDPPPQPKLLSVKGNPEDFIFRQFFF SPYPLFPFPFSYAKPPVSNETFPFPHRF SKLLSQGPADMPPLPGSLP*LLHYSACM LHHLLFCSLAHCAFRLSCQGCQYLHGL MHMFRSGHMHYAAGR
7388	15439	A	8041	32	378	CVYTFIC*EISGLFPVWG*YRK*GSSSSSS SSSSSSSSSHFNKYSSCMFNF*NC*TVL QSGCTILLHHWCMRVLSP*COHLAV FFSHAILLSV*LHLTVIFICIPQITS
7389	15440	A	8042	30	434	DGSSLCRPGWSAEQDCVSSGGEKKKKG RDNIEDEACSSRPSR*LFEENIHLVHALIE EDQLANIIDISAGSAYTILDEKLTLSKRFT RWVPKPLPSDQLQTRAFLMEILNGWD

						QDPEAFLQRIVTGDET*FYQR
7390	15441	A	8043	3	340	IPKPMAKLPFMKYRDLHTNLLYSRMETG PKHIPMKTLLKIMEDIALGMDNLSLMNY LYLELTARNCMERDDMTDCEADFGLSR KRYSGENYLHCRIANRPV*GSAIESLAHR
7391	15442	A	8044	3	378	LIKKHVDFDLATNVQEEKIAALEDFAHQ LITAGHYAKGDIFSRNEVLDRWRRVKT QMIEKRA*V*KSQTLQQFNRDVDENEA WISEKLHTASDDSYKDPNTNIQLCKLLSK HOKHQAF*TELPAT
7392	15443	A	8045	169	375	SSSSLPLHITNPNLHQQLPPQLPAYTGA EGDPCALLS*YCLIHLLNTEAVNNITFLG KQPCCKRYDKV
7393	15444	A	8046	27	289	RSPKTHGGGRRWGMVRPGTAPT/PCCPH RPQLP/CQPLLPPE*SLLEGRSSSLDSGM EESQTHAAPACRTWCSDGPR*PWMGPA ARCSG
7394	15445	A	8047	3	284	LFLWRRQLTLTENPRWWPTLGDGQARD CSDACCPHRPQLPSSHCSQTKSSPIEVPR PPKHR*GGVCAGPSHLPGGPGSSPSPCP WPGSGLF
7395	15446	A	8048	459	1020	EPPRGAEQGGVPGGKGPETSAAPAPTPA REPERVPGGA/PPAPECACAEVAAPAPA GGSLPAGPRPWERPWAAGAP/QGDKG PGEAATSPA/RGDSGVEPRGGGVPLPRH AGPQARRCEPTLPHDLYSGQVQPEHRAA G/LHPRSSGTI*APCTTCRVA*V*DSSIPE SREELRPSKKRSFRSEKEK
7396	15447	A	8049	3	417	VTCGKAFAQAQLIVHQIHTGKKPYDC GACGKDFREKVHLVRHQRTHTGEKPYD RSERGKAFSHKSDLIHHRVHTGEKPYEC CECGIAFSQKSPLIHCRIHTGERPYECIK CGKAFYHK*QLSIAHRAHTGDIAG
7397	15448	A	805	831	1082	SQHFGRRPRADHLRSGDRDHPAQHGETP SLLKROKLASHGGRHL*S*LLWRLRQEN HLNPGWGGCSELRWHRCTPAWATSKNS F
7398	15449	A	8050	29	223	LIKKLASCGGEHLYS*LLKRLRWEN*SSL GV*GCGEL*SQHCTPTWVME*GPAQKH KNKTKKLL
7399	15450	A	8051	194	372	ICQPLSLSTANHPVLCLCFTHKNLHIFIA ALFIIAKSWKQP*CTSVDWIWLGLAPLY
7400	15451	A	8052	1	325	FFFFF*DRVSLLLPKLECNGTISAHCNLR PGSSDSPASASSFFTHVAPLPQLRHY*I FYDGTSLYAG*YSQNLLIYSAPRQPQY HFKDMNKLDSIQRSYTKI
7401	15452	A	8053	228	481	QFFRNTIFF*DRVSLLLPKLECNLSAISAH NLCLPGSSDSPASASRVAGITGTCHHTRL LAFVFLVETGFYHVSQSGLELLTSGD
7402	15453	A	8054	175	431	LIVKMPFLK*SWKIF*MSK**VMLIH*GF VFLFVCAFF*DRVSLLLPRLCNGPISAH NLHLPDSSDSPASAYIKGFVRQLSHEE
7403	15454	A	8055	257	453	TKGGGYTQRTAIQFILFIYLFY*DGVSL LPRL*NGAISAHCNLHLPSSSDSQKKT KNFCTQ

7404	15455	A	8056	277	1230	ISFHLSTFGAPSF FFF FEMEF SLL LPRLEC NGAISAHNRNLRPGSSDSPASASPVGWD YRHVHPRSANFVFFFSRDGVSPCWSGLV SNSRPQMIPPSRPPKVLDTGLATMPGLCL ANFCGRNRVSLMCPSPWSPELKQSTCLSL PKCWDYRRAAVPGLFILFFLRHRCPTLT QDEVQWCDHSSLQPSTPEIKHPPASASQS SWDQRHAPLHLANFYFYF*FFETESHVS TRLECSGAILAHCNLCPLGSSYSAPAS* VAGTTGAH/RRLANFFVFLVEMGFHHVR QVDARSLDLVICLPRPPKVLGLQDVSHH RPAYF
7405	15456	A	8057	1	467	FFFLF*EGV SLL LPRLECSGAISA/HCNLH LPGSSDSPASASQEDGITGVRYHAWLIL/ VFLVEIGFHHVGQADLKP*PQVIHPPLFF FFLRQSFALVAQAGVQWCDLSSLQTPPP RVQGILLAQPEYL VAGFTGMRHHTRLF FFFAFLVETGFHPC
7406	15457	A	8058	274	321	
7407	15458	C	8059	69	254	MDHLYNXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXIEI QXXXXXXXXERERNKNPFPAGD DIISRGVGQ*
7408	15459	A	806	144	441	GYQLPLQDELVLGQFLFQVSKIRFFSARK ITCNSHFLLLKFF*FPHIICK*VSFSSERAA AADRAGASHPRJHNLQRLQENSIRGPK YSSHTVSADAW
7409	15460	A	8060	32	169	NPVPPYPLCPALVFFLLIYLLIY*PSPLLR MSAPAGKGFLFLSL
7410	15461	A	8061	417	490	
7411	15462	A	8062	424	579	
7412	15463	A	8063	1	2157	GFQKRCRHRIAQLFAVGALVCLVLLHL SAMISASRAAAARLVGAAASRGPTAAR HQDSWNGLSHEAFRLVSRDYASEAIKG AVVGIDLGTNSCVAVMEGKQAKVLEN AEGARTTPSVVAFTADGERLVGMPAKR QAVTNPNTFYATKRLIGRRYDDPEVQK DIKNVPFKIVRASNGDAWVEAHGKLYSP SQIGAFVLMKMKETAENYLGHAKNAV ITVPAYFNDSQRQATKDAGQISGLNVLR VINEPTAAALAYGLDKSEDKVIAVYDLG GGTFDISILEIQKGVFEVKSTNGDTFLGG EDFDQALLRHIVKEFKRETGVDLTKDNM ALQRVREAAEKAKCELSSSVQTDINLPY LTMDSSGPKHLNMKLTRAQFEGIVTDLI RRTIAPCQKAMQDAEVSKSDIGEVLVG GMTRMPKVQQTVDLFGRAPSKAVNPD EAVAIGAAIQGGVLAGDVTDLVLLDVTP LSLGIELGGVFTKLNRRNTTIPTKKSQVF STAADGQTQVEIKVCQGEREMAGDNKL LGQFTLIGIPPAPRGVPQIEVTFDIDANGI VHVS AKDKGTGREQQIVIQSSGGLSKD DIENMVKN AEKYAEEDRRKKERVEAVN MAEGIIHDTETKMEEFKDQLPC/ADECN KLKEEISKMRELLARKDSETGENIRQAA SSLAQASV LKLF RNLTKKMGS*AEEGS GSSGHWGNKREDSKGREKPVN
7413	15464	A	8064	500	752	

7414	15465	B	8065	1	1713	MALWRGSAYAGFLALALTWRDRKKKF PGDDEAPGVKRTWAAGAGMRGRQWLR KRVEVVCTGRSANTVCAGVRAAGLVEK SPPPSLSRVGRRFRFCGDLDCPDRVLA EI STLAKMVECTGSTLGGGGYKKILKL TAD AKFVEEHEGKKDIDSPTFLSSASSWWSSS SAYGSRRPGGFELKLIGQQGESGDVKAT VAVLSFILSGAAKHSVDGKSLASELQQL GLPKEHAASPCCCYEKQSPLOKHLRVC SLRTWSLAARVAEGTAETVDPSPAAPKTS VWSSRVCWGRLLATISPSVNETDT CGME DRRLVVC RPWRAQCHMKAWGWRHP EE GGTHSGAPSAVLQALAVAIQLGGHLADP LLQVDPLSSCGAVSLDILYLVFYYRTAS VPETYIVKTLFKKLESQS LIQSNVLTRSN SMKAERGEEAAKEKSEASRGWFMRFKE RSCLHNIKMQGEAASADVEAAASYPKD LAKITDEHGYTKQVRCIQNSLLLEGNA EEVRKIIVCSMSPLKPGGPVTLVEEFLC ASKASVS AVSGWISKWRNWQEIRRQEE REDRASLPDLQASES*
7415	15466	A	8066	1	3053	MRPGFVVSVGMVEGVPGE PDPYPVL CY TPWPGHDL PASRAALAQGRSWSLHRMI GQDSGRRRSRRQH FAPGTSSGLRSAPGL TRAGPAPPEAVSPSHVIVDSADLAGPEKE IPGPWLPRAMYEA PGVKRAWAAGAGM RGRQWLRKRVEVVCTGRSANTVCAGV RAAGLVEKSPPPSLRMGRFRFCGDL D CPDRVLA EI STLAKMVECTGSTLGGGGY KKILKL TADAKFVEEHEGKKDIDSPTFLS SASSWWS
7416	15467	A	8067	330	452	
7417	15468	A	8068	3	347	
7418	15469	A	8069	3	1279	
7419	15470	A	807	165	1222	QSKRLNAKRYLLTDNVVKLKEFQKKV AVACNLSGTKETYFRNLKKKLTQNK LIL KGELITLLHLCESRDHVELAKNVIYRYH AENKNFTLGEY*FGPLFVRLCYQLDLEE SAGELMKDQHLRGFFSDSTLFNILMDML FIKGKYKSALQVLIEMKNQDVKFTKDTY VLAFAICYKLNSPESFKICTTLREEALLK GEILSRRASCFAVALALNQNEMAKAVSI FSQIMNPESIA CINLNIIIIHQSNMLENLK TLKNAAEGNLSKFVKRHVFSEEV LAKV REKVKDVPALVAKFDEIYGTLHITGQVT TDSLDAVLCHTPRDRKSH TLLNKR MVS RRTFQPLSQSL LAE
7420	15471	A	8070	1	496	LLGVAPSRAFQEEILR/DRASFHE/RPNLF ALKHPTSKAECTAEKCYRVTKGRGIFPS GSPFKSVTLEDGKTFIPGQGNNA YVFP G VALGVIAGGIRHIPDEIFLLTAEQIAQEVF EQHLSQGRLYPPLSTIRDVSLRIA KVL D YAYKHNLDSYTPWKEAMNVQTV
7421	15472	A	8071	228	448	

7422	15473	A	8072	3	1877	EGEDRGLPRTMGAALGTGTRLAPWPGR ACGALPRWTPTAPAQGCCHSKPGPARPVP LKKRGYDVTRNPHLNKGMAFTLEERLQ LGIHGLIPPCFLSQDVQLLRIMRYRQQ SDLDKYIILMTLQDRNEKLFYRVLTSDV EKFMPIVYTPTVGLACQHYGLTFRPRG LFITIHDKGHLATMLNSWPEDNIKAVVV TDGERILGLGDLGCYGMGIPVGLALYT ACGGVNPQOCLPVLLDVGTNNEELLRDP LYIGLKHQRVHGKAYDDLDEFMQAVT DKFGINCLIQFEDFANANAFRLNLYRN KYCMFNDDIQGTASVAVAGILAAALRITN NKLSNHVVFVQGAGEAAMGIAHLLVMA LEKEGVPKAEATRJIWMVDSKGLIVKG RSHLNHEKEMFAQDHPESNSLDEVVRL VKPTAIGVAAIAEAFTEQILRNMAFPR RAPIIFALSNPPRKAECTAEKCYRVTEGP RGFFASGSPF*GVLIWEMGKTFIPGGRG NNAIYVFPVATGVIAIGGIRHIPDEIFL LDSRAKLPQEVSEQLASQGRLYPPLSTIR DVSLRIKVLDAKYKHNLAISYYPEPKD KEAFCKIPGSYTPDYDSFYTVDSYIWAQ GKAMNVQTV
7423	15474	A	8073	325	587	
7424	15475	A	8074	124	343	
7425	15476	A	8075	32	487	SRRHGSSLWGKVNVEDAGGETLGRLLV VYPWTQRFDFSFGNLSSASAIMGNPKVK AHGKKVLTSLGDAIKHLDDLKGTFALQS ELHCDKLHVDPENFKLLGNVLVTVAIH FGKEFTPEVQASW/QEDGDWSGQCPVLQ IPLSSLPMQSFQ
7426	15477	A	8076	3	573	FCPRGQEFEGGNKLLVPDAHGVISQRR KATITSLWGKVNVEDAGGETLGRLLV VYPWTQRFDFSFGNLSSASAIMGNPK KVKAHGKKVLTSLGRCQSTLDDLKGT FAQLSELHCDKLHVDPENFKLLGNVL VTVAIAHFVKDFTEGCRASWQKMGD FSGQCPVLQIPLKPLGP*IQSFQ
7427	15478	A	8077	2	347	
7428	15479	C	8078	213	263	MGFHHVSQDCLDLT*
7429	15480	C	8079	637	1452	MGIAAASVLGDLAVVFGMHVPAQADG QDHPQELDHGTHAHAEDDAQVLLQPR LHLLHAALLVHRPVLRVATLGPVAGG LAEALPHRAVVLFPDFAGTGVDLR AIHELVSVCVVVEADPAALHLSLHVVP GILQAVLATAVVVSNELSHDATHLLLQ AHVEVEEGPRHLGNEDQEESKVPQ QAADLVGDADAAQEAHEHSDCPHADED IGPHPKRAGGLQDRDETALVGQDPHPE AQDHCAQDKEDQVEEEKVFGDFDTG*
7430	15481	C	808	324	500	MGNWGRSSFLKLQNLFLKMRSDQA QWLTPKIPALWEAEAGSSEVRSLRSW STW*
7431	15482	A	8080	226	314	
7432	15483	A	8081	2	350	KTLLFFFFRFEPHNLLTSMICGLVYNQ PPQHLVHLLKRRIWPQGNILGINKRPG TVAHTCNPSTLGGRRGRITRSGVRD*PG QHSSEPSLTIQKNYPGVMAGACNPSYS GG
7433	15484	A	8082	172	287	IVYASEEKI*TFQEQGWPGAVAHTCNPST LGGRRGRITRSGDRDHPG*HRPP
7434	15485	A	8083	14731	15030	IAGCRPGAVAHSCNPSTLGGRRGQI/TLR SGV*DQPGQYGETPSLLKIQLGRRGGR RLKSQLLREAEAGESLEPGRQFAVSRHR ATALQPGNRARLHLKK
7435	15486	A	8084	1	193	
7436	15487	A	8085	1	346	
7437	15488	A	8086	3	522	

7438	15489	A	8087	1	840	HMELPYGTLTDDMRRNLNIPVLQDDGFL FLWVTGRAMELGRECLNLWGYERVDEII WVKTNQLQRIIRTGRTGHWLNHGKEHC LVSSSGAQFNRWSTKKNHLISY*EKVQR CGFIR*SVILW*AGGVKENPQGFNQGLD L*CDRS*GMCFSGLQSFHIFVGYQLFMV GCILIPRFFLI*INIIGKGLGAILCNLKKQ LVFIS*VRSTSHKPDEIYGMIERLSPGVTR KIELFGRPHNVQPNWITLGNQLDGIHLLD PDVVARFKQRYPDGIISKPKNL
7439	15490	A	8088	13	323	
7440	15491	A	8089	3	218	
7441	15492	A	809	1734	1910	NWVGGQQEGREFFQV*WATDLKSA*GE EIEPDIPKLKPGGQKWETGLRFLHFDSK WFF
7442	15493	A	8091	3	332	
7443	15494	A	8092	1	1431	MHKAGLLGLCARAWNSVRMASSGMTR RDPLANKVALVTASTDGIGFAIARRLAQ DGAHVVVSSRKQQNVDQAVATLQGEGL SVTGTVCHVGKAEDRERLVATAVKLHG GIDILVSNAAVNPFFGSIMDVTEEVWDK TLDINVKAPALMTKAVVPEMEKRGGGS VVIVSSIAAFSPSPGFSPYNVSKTALLGLN NTLAIELAPRNIRVNC/LAPGLIKTSFSRM VLGEPEDCAGIVSFLCSEDASYITGETVVN LSVMFTGGGVCRAASWKEGGTGTPRTP RESRQREPGETSSDTQENKVWNLPA NPQRPAEGRPVRKTNKQKGIASSTAKD SINIRTGKDIHTKTPSIGHQHQRPKVDKT TKMERNQSKKAETSRNQNVSSLPKEYKS SPAREQNWENKFDDLTDVSFRRSVITN YTQLKEHVLTHCKEAKNLDKMLNEWLT RMKNLEKSLNDLMELITTVQELHEGYTS FNS
7444	15495	A	8093	195	434	
7445	15496	A	8094	43	1601	SMHKAGLLGLCARAWNSVRMASSGMT RRDPLANKVALVTASTDGIGFAIARRLA QDGAHVVVSSRKQQNVDQAVATLQGE GLSVTGTVCHVGKAEDRERLVATAVKL HGGIDILVSNAAVNPFFGSIMDVTEEVW DKTLDINVKAPALMTKAVVPEMEKRGG GSVVIVSSIAAFSPSPGFSPYNVSKTVLLG LTKTLAIELAPRNIRVNCLAPGLIKTSFS RMLWMDKEKEESMKETLRVIRLGEPE DCAGIVSFLCSEDASYITGETVVNLSVMF TGGGVCRAASWKEGGTGTPRTPRESR QREPGENQARSSPRMALRPEFPPEASTS WMGPEPVGNRERPCPKPARKVGASPRAL RRLGSATRMLSRRAALRAGVGARAPRPG GGRGAHATATVWSGLASAAALTARALL KRSLACAAAPQRCGWRRLCSSLGSRG QGGQAHRGAHLRVVRYGTASVFGTPRL VASQIQHVPSGPAPRPGASHPATPSIQL RQPLHLSPDIAVPGASSAGAGA
7446	15497	A	8095	2	172	
7447	15498	A	8096	3	823	
7448	15499	A	8099	346	461	
7449	15500	A	81	457	489	PP*ITLG*KTCSQARWLMPIPTLWKA EVGRSLELRSLRPAWATRRNPSTKN/LKIS WGRQGSSELRSRHCTPAWQHSETPI
7450	15501	C	810	226	306	MTTSPPPSALQKKEMEILPVILRVPS*



7451	15502	A	8100	3	1560	SSLWRRQPELKAYRTMEYMAESTDRSP GHILCCECGVPISPNPANICVACLRSKVDI SQGIPKQVSISFCKQCQRYFQPPGTWQC ALESRELLALCLKKIKAPLSKVRVLDAG FVWTEPHSKRLKVKLTIQKEVMNGAILQ QVFVVDYVVQSOMCGDGHESEKLDKF WKAVIQVRQKTLHKKTFYYLEQLILKY GMHQNTLRIKEIHDGLDFYSSKQHAQK MVEFLQCTVPCRYKASQRLISQDIHSNT YNYKSTFSVEIVPICKDNVCLSPKLAQS LGNMNQICVCIRVTSIAHLIDPNTLQVAD IDGSTFWSHPFNSLCHPKQLEEFIVIECSI VQDIKRAAGAGMISKKHTLGEVWVQKT SEMNTDKQYFCRTHLGHLLNPGDLVLG FDLANCNLNDHEVNMNSDRVPDVLI KKSYPDRTKRQRRRNWKLKELAREREN MDTDDERQYQDFLEDLEDEAIRKNVNI YRDSAIPVESDITDDEGAPRISLAEMLEDL HISQDATGEEGASMLT
7452	15503	A	8101	1	171	
7453	15504	A	8102	3	231	RRQAQIAAGRVLVVALFGCGGLHSRL DGAALCLPGHCHGSRVEVYETHQCGL VGLKLLRGGREQSDRGSLGLT
7454	15505	A	8103	48	532	NLMNICRGPCLLPGAPFMRDLAAVA/SV GLP/LVRRQAQVAAGRVLVVALFEGCG GLHSRLDGAALCLPGHCHGSRVEVY APQCGLVGLKLLRGGREQSDEGSLGLT *DAQLGPGAHEPEIRAAWE*TAVIISLV SLEPRDGGGRVARLGAREAIGNP
7455	15506	A	8104	3	421	AAEASVGL/PLLRQAQIAAGRVLVVAL FGCGGLHSRLDGAALCLPGHCHGSRVE VTYETHQCGLVGLKLLRGGREQSDRGG SLGLT*DGQLGPSAEDYTISSCPHLTGIV GLIPGLDSADGQGGRVPRLGARESVRDT
7456	15507	A	8105	94	582	LSHPLPL/LGRQAQIAAGRVLVVALG CGGLHSRLDGAALCLPGHCHGSRVEVY ETHQCGLVGLKLLRGGREQSDRGSLGL T*DGQLGPSAEHQSVSVPSLTVIISLRL EVGDGEVAVSPRAGAREAIRNSAPLVVA STTFKPHQVPRGLSCLLLMPRDVVPTVS TAQSAGEPDRGSQSGRGRG
7457	15508	A	8106	2	332	GSLQGLPGQSFSGGLPLLGRQVRVAAG RVLVVALFGGFGGLHSRLDGAALCLPG HCHSSRVEVTDQTH*CGLVGLELLRGG EQSDSGVGLGLTQDGLRSTSEDKVC
7458	15509	C	8107	30	653	MTCSPLLLTLIHCTGSWAHSVLTQPPSV SAAPGQITISCSGSRNLVGNVFSWYQ QLPGTAPKILIYDNDKRPSGVPARFSGSK SGTSATLAIQTGLTGDEANYCYGAWDTS LDNWVFGGTEVTVLGQPKAAPSVTLF PPSSEELQANKATLVCLISDFYPGAVTVA WKADSSPVKAGVETTTPSKQSNKYAA SSYLSLTPEQ*
7459	15510	A	8108	484	632	PWSHFRRF*LTMRIEGLLSAGRRA/WM PWGGRRDPSPGILQL*SPVGGVRDENL* TFCRGHCLLHGAPFMRDLAAVAFVGLP LLRRQAQVAAGRVLVVALFGGFGGLHS RLDGAALCLPGHCHSSRVEVTDQTH*CG LVGLELLRGGREQSDSGVGLGLT*DGDL GPTSEDSKGATTSKRAAVIISLVVSLEPR DCQGGRVGRHGAREAIINP

7460	15511	B	8109	27	1337	MAWTPLLLLFPLLLHCTGSLSQPVLTOSS SASASLGSSVTLTCTLSSGHSYIIAWHQ QLPGKAPRSLMKVEGDGSYKTGRGVPD RFGSSSSGANRYSISNFQSEDEADYYCQ AWDSSTAHS DTGRGIVGRPPVRQCWP LLLLGLAMVAHGLLRPMVAPQSGDDPD GASVGSSRSLRSLWGRLLLQSPQRAD PRCWPRGFWSEPSQLCYVFGTGKVTVL GQPKANPTVTLFPPSSEELQANKATLVC LISDFYPGAVTVAWKADGSPVKAGVETT KPSKQSNKYAASSYLSLTPEQWKSHRS YSCQLQWGLGLGASQGGFLYEPVSQCV VFGGGTKLTVLGQPKAAPSVTLFPPSSEE LQANKATLVCLISDFYPGAVTVAWKAD SSPVKAGVETTTPSKQSNKYAASSYLS LTPEQWKQAQKLQLPET*
7461	15512	A	811	168	258	GHLGPRQKQARGL*GHRVQVLHNYVI PM
7462	15513	C	8110	54	410	
7463	15514	A	8111	1	175	
7464	15515	A	8112	1815	2017	GQGAVAHTCNPSTLGGQGGRTLRSGV QNQPDQHGETLSLLNISGVWWRAPVIAA FQEAETGESLEP
7465	15516	A	8113	1109	1482	
7466	15517	A	8114	266	399	
7467	15518	A	8115	6	361	
7468	15519	A	8116	688	1127	
7469	15520	A	8117	2	311	
7470	15521	A	8118	2	51	
7471	15522	A	8119	203	365	
7472	15523	A	812	229	434	TEELKRCRQTLPSGCGVLPWRARLAVG VS/GRRGRSSSPMLTPSAAPCGNPGSLTS NLPAAGCKPSCQAW
7473	15524	A	8120	152	314	
7474	15525	A	8121	11	380	RLHRFFLGESEQSPASSSSSSSSSLTPSQ TROHGLRSIMKDLHSDDYEEESYEVD NDNDSKMERPANR*RTRSRTVSLSDGSD SESRTSS*PLHYEPPLLYTNNNQILEVE SPITHSL
7475	15526	A	8122	124	1924	ITAEGRRRGGYHTTPQQTSGPPGMASS CSVQVKLELGHRAQVRKKPTVEGFTHD WMVFVRGPEHSNIQHFVEKVVFHLHESF PRPKRVCKDPYKVEESGYAGFILPIEVY FKNKEEPRVRFDYDLFLHLEGHPVNH LRCEKLTFFNPTEDFRRKLLKAGGDPNR SIHTSSSSSSSSSSSSSSSSSSSSSSSSSS SSSSSSSSSSSTFSKPHKLMKEHKEKP SKDSREHKSAFKEPSRDHNKSSKESKK PKENKPLKEEKIVPKMAFKEPKMSKEP KPDNLLTITSGQDKKAPSKRPPISDSEEL SAKKRKKSSSEALFKSFSSAPPLILTCAD KKQIKDKSHVKMGVKIESETSEKKKST LPPFDDIVDPNDSVDEENISSKSDSEQSP AS\SSSSSSSFHTIPGPGQQGLARSIMKD LHSDD\NEEEADEAEDSDNDSEMERPVN RGGSRRRVSLSDGSDSESSASSPLHHE PPPPLLKTNNNQDSWKWKSPIKQSK\SD* GKLKNGEC*QGLT*MELVGAFTGRFIDF EEERHILQQIVNLIETGHFHTNTTFDFD LCSLDKTTVRKLQSYLETSGTS
7476	15527	A	8123	2	319	
7477	15528	A	8124	1	323	
7478	15529	A	8125	31	118	
7479	15530	A	8126	1	4938	
7480	15531	A	8127	472	4356	
7481	15532	A	8128	2	236	
7482	15533	A	8129	503	638	

7483	15534	A	813	1060	1542	GRDMVAPDASWKEASGCNAPARICPGQ AFRANGCSDPTLGIQHQLFRSRLSPKVL GPVGPWELGGE*DEAPSASFFSHWEVL GRLLVGASGSPSVKQEPAAALERARVPGD AARRQPRDRKGPPGPPCCSEHPAPVRAP LVAGLGDAGSGAPRAKLGVM
7484	15535	A	8130	464	2848	GETGMSTALHTTVAMRCPMLGGGGGP TYGPPQPWGHDPVHIMQHHLPIQARLG SIAEIDLGVPPVMKTFKEFLSLDDSDV ETEAVKRYNDYKLDFFRQQMQDFFLAH KDEEWFRSKYHPDEVGKRRQEARQALQ NRLRVFLSLMETGWFDNLLDIDKADAI VKMLDAAVIKMEGGTENDLRILEQEEEE EQAGKPGEPKKEEGRAGAGLDGERK TNDKDEKKEDGKQAENDSSNDDKTKKS EGDGDKEKKEDSEKEAKKSSKKRNRK HSGDGSFDEGSVSESESESESGQAEEEE EAEALKEKEKPKEEWEKPKDAAGLEC KPRPLHKTCSLFMRNIAPNISRAEISLCK RYPGFMRVALSEPQERRFFRRGWVTFD RSVNIKEICWNLQNIRL/RECELSPGVNW DLTRVRNNGITQHKQIVRNDIKLAACL IHTLDDRTQLWASEPGTPPLTSLPSQNPI LKNITDYLIEEVSAAAAELLGSSGGAPPEE PPKEGNPAEINVERDEKLIKVLKLLLYL RIVHSLDYNTCEYPNEDEMPNRCGHIH VRGPMPPNRISHGEVLEWQKTFEELTP LLSVRESLSEEEAQKMGRKDPEQEVKFK VTSNTQELGKDKWLCPLSGKKFKGPEFA RKHIFNKHAEKIEEVKKEVAFFNNFLTD AKRPALPEIKPAQPPGPAQILPPGLTPGLP YPHQTQGLMPYGPQPRPILGYGAGAVR PAVPTGGPPYPHAPYGAGRGNYDAFRG QGGYPGKPRNRMVRGDPRAIVEYRDL APDDVDFF
7485	15536	A	8131	2	433	
7486	15537	A	8132	1073	3545	GETGMSTALHTTVAMRCPMLGGGGGP TYGPPQPWGHDPVHIMQHHLPIQARLG SIAEIDLGVPPVMKTFKEFLSLDDSDV ETEAVKRYNDYKLDFFRQQMQDFFLAH KDEEWFRSKYHPDEVGKRRQEARQALQ NRLRVFLSLMETGWFDNLLGH*TKLI AIVKMLDAAVIKMEGGTENDLRILEQEE EEEQAGKPGEPKKEEGRAGAGLDGE RKTNDKDEKKEDGKQAENDSSNDDKTK KSEGDGDKEKKEDSEKEAKKSSKKRN RKHSGDGSFDEGSVSESESESESGQAEEE KEEAEEALKEKEKPKEEWEKPKDAAG LECKPRPLHKTCSLFMRNIAPNISRAEIS LCKRYPGFMRVALSEPQERRFFRRGWV TFDRSVNIKEICWNLQNIRGARSLNRWC SRGKGLRAAVSLASGLRECELSPGVNRD LTRVRNNGITQHKQIVRNDIKLAAKLI HTLDDRTQLWASEPGTPPLTSLPSQNPI LKNITDYLIEEVSAAAAELLGSSGGAPPEE PPKEGNPAEINVERDEKLIKVLKLLLYL RIVHSLDYNTCEYPNEDEMPNRCGHIH VRGPMPPNRISHGEVLEWQKTFEELTP LLSVRESLSEEEAQKMGRKDPEQEVKFK VTSNTQELGKDKWLCPLSGKKFKGPEFV RKHIFNKHAEKIEEVKKEVAFFNNFLTD AKRPALPEIKPAQPPGPAQIIHVPVRVL PPGLTPGLPYPHQTQGLMPYGPQPRPIL GYGVPTGGPPYPHAPYGAGRGNYDAFR GQGGYPGKPRNRMVRGDPRAIVEYRDL DAPDDVDFF
7487	15538	A	8133	188	391	

7488	15539	A	8134	1	998	MAVMLHSAKWPLPVLLQGLTMQPPLPS KHISERSEEDSRQPLYSVILIFYEAGFAIL VFDKTDQPKKVKRDKEGHYIMVKGSM QQEELTILNIYAPNTGASSFIKQVLGDPQ RDLDSTIIVGDFNTPLSILDRLMRQKIN KDIQDLNSALDQVDLIDIYRTLHPKSTEY TFFSAPHHTYSKIDHIIGSKTLLSKCKRTE IITNSLSDHSAIKLELRIEKFTQNHHTTWK LNNLPLNDYVWNNEIKAEINKFFETNEN RDTMYQNLWDTAKAVFRGKFIALNGH RRK*ERSKINTLTLQLKELEKQEQTTHSKA SRRQEITKIRAELEIDS
7489	15540	A	8135	1	1674	
7490	15541	A	8136	3	361	
7491	15542	A	8137	3	174	
7492	15543	A	8138	3	326	
7493	15544	A	8139	1	82	
7494	15545	A	814	166	437	ADHLKSGV*DQPGQHGEILSLKLQ*FPG RGG AHL*SQLLGRLKQENHLPNGGGGC SEPRLCHWTPVRATVGDSVQKK*KSQD GPRAKLG
7495	15546	A	8140	2	372	
7496	15547	A	8141	1	352	
7497	15548	A	8142	2	395	
7498	15549	A	8143	4274	5256	HTLFGDKLCTVATLRETYGEMADCCAK QEPERNECFLOHKDDNPNLRLVRPEVD VMCTAFHDNGETFLKK*VIRCL*FKIKK HGVTP*ANTL*KLP*QKYFQH*DLEVLL* *FFKEVVFDITTKFYTAKNMIKDILKFIET GYNLSQKFIDKFFNVFRRYVYVYVVID FVLVSNIILPKFNHLCCTHTHTHTLTLFST YLKNDKDKTIMCKLSLIG*LAESLEFGGS GENVDYNYFCNIVCYRK/ADCFSLKFR YLVEIARRHPYFYAPELLFAKRYKAAP TECCQAADKAACLLPKVLCRIEKKSL SNLILSILWDLGLSV
7499	15550	A	8144	23	136	
7500	15551	A	8145	1	248	
7501	15552	A	8147	3	231	
7502	15553	A	8148	30	217	
7503	15554	B	8149	49	754	MAGAAPRLPWSRPHGSCGWWMQPLQ GPGRRAVAAAWEVATPVFMPVGTQAT MKASRPNSWTLWVAASAWAYLPSGSK AGGTAAFPDGVAGVSVRGDGGGLRFRS PYDGNETLLSPENPCRSRMRAWPGVVT GALLQVNPLAGPVHAAHQRPDKQNLFA IIQVGWGTQISGPPALKRFGSAWHSRAFLT HCCTVTTRPCTTSRQHRPaelMSAV RTSIVEKRFPDSCGTSWAPX*
7504	15555	A	815	3	238	SGDRDHPG*HSETLSLLKIQQIAGRGGG RL*SRLRLRQENGVSPPGGACSEPRS HHCTPAWETERDSVSKKKKKKL
7505	15556	A	8150	1	593	RQSRWREQLPRLSWRLVPRIMRLVAEC GRSRARAGELWLPHTVATPVFMPVGT QATMKGITFAFLDALGCRICLGNTYHL GLRPGPELIQKANGLPRLS*IWPSLILLN GTAAVFQMVSLVSLSEVTEEGVFRSPY DGNETLLSPEKSVQIQNALGSDIIMQLDD VVSSTVTGPRVEEAMYSIRWLDRCICS H
7506	15557	B	8151	374	613	MTALDLFLTNOFSEALSULKPRTKESMY HSLTYATILEMQAMMTFDPQDILLAGN MMKEAQMLCQRHRRKSSVTDSFSSL*

7507	15558	A	8152	2	1922	VETPPQGSVHSGHLGSVVDPHGTGN AGERGPRGKGARVLALDSSGMDSSPSLP LIRTPESSLHEALDQCMTALDLFTNQFS EALS YLKPRTKESMYHSLTYATILEMQA MMTFDPQDILLAGNMMKEAQMCLQRH RRKSSVTDSSSLVNRPTLGQFTEEEIHA EVCYAECLLQRAALTFLQGSSHGGAVRP RALHDP SHACSCPPGPGROHLFLLQDEN MVSFIKGGIKVRNSYQTYKELDSLQSS QYCKGENHPHFEGGVKLGVGAFNLTL MLPTRILRLLEFVGFSGNKDYGLLQLEE GASGHSFRSVLCVMMLLCYHTFLTFVLG TGNVNIEEAELLLKPYLNRYPKGAIFLFF AGRIEVIKGNIDAVSDGGPGRGWGSLGV SQTSRKS GTC DILRDRIDWGRGGGPREN QPESRGRRGPSGRAAWEDKGGGGICGA WDFDWEI*DCSIAVEGGGGRCLEAEVR KAHLFRA*RLGWSLVPLPHYSSLLFHF VTKNQSPRRGLYLSPTSCKT*EVKPGLE ARSPGSWGPT*A*HRAGPLCPGGVPVCC GVGRFGGCRGVGAGWAPVRLTRRCLQ AIRFECECEAQQHWKQFHHMCYWEL MWCFTYKGQWKMSYFYADLLSKENCW SKVG
7508	15559	A	8153	1	285	
7509	15560	A	8154	3	409	
7510	15561	A	8155	1	390	
7511	15562	A	8156	17	221	
7512	15563	A	8157	2	366	
7513	15564	A	8158	1270	1692	
7514	15565	A	8159	2	261	RPRRSSTS*SPH*PPAVAAAPSGAPPWG LSCPRRPRAPPAAPPEALGQGPSTRG AAEVAGAAGSRPPQPFYSDQSRFCCIKS
7515	15566	A	816	4005	4345	SQHFRPRRADHLRSGVQDQPDQHGET PSSLGGRGGRITKSGDRDHPG*HGETPSL LKMQ/EKLAGRGGGRLWSQLLRLRQE NGVSPGGRACSEPRSCHCTPAWLTEQDS VSKK
7516	15567	A	8160	44	463	
7517	15568	A	8161	2	318	
7518	15569	A	8162	1	349	
7519	15570	A	8163	38	368	
7520	15571	A	8164	43	376	LSMANGPPHCTECTAFPRESGKNCKVCI FNTDGTLVAWRTGQKADIISVSSKGLLH SFYLLKAVCLEFSPKNTAL*TGLPYSTSK DATAGIPNLQLYDVKTGTCLKSFLQK
7521	15572	A	8165	22	192	
7522	15573	B	8166	852	931	MYSPPDPRTVKSGVDGAMLSRKEKPLG*
7523	15574	A	8167	1	202	
7524	15575	A	8168	2	330	
7525	15576	A	8169	1	281	AAWILKARALTEMVYIDEIDVDQEGIAE MMLDENAIA/PSSTPITQAGRPTGFLRPS TQSGRPGTMEQAJRTPRTAYTARPTSSS GRFVRLGT
7526	15577	B	817	1	9234	MGAPTLPPAWQPFLKDHRISTFKNWPFL EGCACTPERMAEAGFIHCPTENEPDLAQ CFFCFKELEGWEPDDDDPIEHHKKHSSGC AFLSVKKQFEELTLGEFLKLDREKAKNI AKETNNKKKEFEETAKKVRRAIEQLAA MD*

7527	15578	A	8170	1	769	QAAWILKARALTEMVYIDEIDVDQEGIA EMMLDENAIQVPRPGTSLKLPGTNQTG GPSQAVRPITSHSEKPITGFLRPSTQSGRP GTMEQAIPTPTAYTARPITSSSGRFVRL GTASMLTSPDGPFIN*SRLNLTKYSQPK MAKALPEYIFHHENDVKTALELAALSTE HSQYKDWWWKVQIEKRYRLGMYREA EKQIKSSLKQEMVDITFLYLAKVYVSLD QPVTALNLFKQGLHKFPGEVTLCCGIARI YE
7528	15579	A	8171	2441	2706	FCFGLSCSLPFFFFFFFEMESRSVAQAG VQWCDLSSLHPLPPGSSNAPASASRVAG TTGAYHQCLANFGFVFLVETGVSLCWL GWS
7529	15580	A	8172	1258	1733	ILFWIIQLNLECSEFSWRLRQGRGIMLFFF PFLFFFETESHVAQTGVQWCDLGSLOP PPPGLSDSPALASSVSWITDVRHHLWLIF VFLVETGFRHVGQASLKLPTSGDLPTLA SQSAGITGVSHYAWLIFVFLVETEFHHV GQAGLELLAPSDPPA
7530	15581	A	8174	196	390	
7531	15582	A	8176	84	307	
7532	15583	A	8177	3	383	DIKILIASPSATHIHKETTRATSSPYRDTQ SRTASPNRAGKGVIEQTEKSHPRSPNVLS AALSQRTTVPEEELNPKILALQNAQRKR KMEHDGSLFQAVGI/DLACRL/LGQSM ESGLPQLTSYDCEV
7533	15584	A	8178	2	691	
7534	15585	A	8179	2	202	
7535	15586	A	818	1577	2233	SGCLLSPPSVGRQNSPVELGGAGLSRAG WAPQERGRAALLLISPGPNVRGGPDWLP SVLQMRGLPLWDLGGRPDVGRMSPGGR PGSCWATQLRFHISLAPLFSWAGRSGS RLNPSTLGGRGGPITRSGDRDHPG*HGET LSLLKIQKISQACWR/CACSPSYGRLRQE NGVNPGGGACREQRSGHCTPAWATEQD SVSKKKKKKSGSTIRLKHILHKII
7536	15587	A	8180	1	62	
7537	15588	A	8181	116	333	
7538	15589	A	8182	55	351	QWSYLPQVMFTGENIPVHPHVYSNGHI CLSILTEDWSPALSVQSVCLSIHMLSSCK EKRRPPDNSFYVRTCNKNPKKTKWWYH GKFEHRDIHKGKKM
7539	15590	A	8183	3	474	DGSIMASMQRLQKELLALQNDPPPGM TLNEKSVQNSITQWIVYMEGAPCTLYEG EKFQLLFKCRRYPFDSSQGMFTGENIT DHPHVYSNGHMCLSIKTNWFPALSVQS VCLSIHMLSSCKEKTDDHPDNSFYVRT CNKNPKKTKWWYHDDTC
7540	15591	A	8184	1	232	
7541	15592	A	8185	3	367	
7542	15593	A	8186	1	203	
7543	15594	A	8187	2	333	ARVKRLGMFNIQHCKKLSSWVLLMKYL GNATAIFFLPDEGKLQHLENELTHDIITK FLAETFCLHFPKLSITGYDLKSVLGQLGI TKVFSNGADLSGVTEEAPLKLKAD
7544	15595	A	8188	1	853	EYRRFLVDRHLQLTTGNGLFLSEGLYLV DKFLEDVGRLYHSEALTVNFGDTEEA QINDYVEKGTQGKIVDLVKELDRDVTFA LVNYIFFKGKWERPFEVKDTEEDFHDV QVTTVKVPMMKRLGMFNIQHCKKLSSW VLLMKYLGNATAIFFLPDEGKLQHLENE LTHDIITKFLNEDRRSASLHLPKLSITGT YDLKSVLGQLGNTKVFGRGSQHEKRRRT EATKECRKTQNNRGTERVATAT*THNQ KRKRAQQGNTREKENGKQREQGPFVFL MIEQN

7545	15596	A	8189	3	157	
7546	15597	A	819	151	454	FQKIGPGAVAHACNPSTLGGRRRITRSG GRDHPG*HSETPSLLKIQKLAGRGGGCL *SOLLWRLRQENGVPNGGACSEPRSRH CTPAWVTERDSVSKKK
7547	15598	A	8190	3	362	
7548	15599	A	8191	3	333	
7549	15600	A	8192	174	361	
7550	15601	A	8193	1	1143	VRCPVRNSRVDPRVRMAAVFLVTLYE YSPLFYIAVVFTCFIVTTGLVLGWFGWD VPVILRNSEETQFSTRVFKKQMRQVKNP FGLEITNPSSASITTGITLTDLEDLLTC YWGCSVQKLYEALQKHVYCFRISTPQA LEDALYSELYQEYAFILSSDIPISTEN*T SYG*SVANLLIHLGILEACLLQNKHSPCI RTCSVYRISVSGTGAFACRLIYPLALHRL LMDKVPLTY*SFLGY*KHVYCFRISTPQA LEDALWSELYQEYHFIKKDSKEEYICQ LPRDTNIDDFGTVPRSRYPLVALLTSD DDREIYDIISMVSVIHIPDRTYKLSCRILY QYLLAQGGFHDCLKLFMSANNFTPS NNSSE
7551	15602	A	8194	2	499	
7552	15603	A	8195	3	486	
7553	15604	A	8196	80	1281	LPAQKLDTCDEDETTALVCDNGSGLV KAGFAGDDAPRAVFPISVGRPRHQGVM VGMGQKDSYVGDEAQSKRGILTLKYPIE HGIITNWDDMEKIWHHTFYNELRVAPEE HPTLLTEAPLNPKANREKMTQIMFETN VPAMYVAIQAVLSLYASGRITGIVLDSG DGVTHNVPIYEGYALPHAIMRLDLGRD LTDYLMKILTERGYSFVTTAEREIVRDIK EKLCYVALDFENEMATG/PSIHPPMEKS YELPDGQVITIGNERFRCPHTLAFQPSFIG MESAGNHETTYSNMKCDIDIRKDLAYA NNVMFGGHPRLYPWEFADRMQERDSP ALAPQAPMEDQGFIRPRSAKYSVWIG RLPSWPSLSHLPSKMWITEAGSTDEAGP FPSSNRKCF
7554	15605	A	8197	2	228	
7555	15606	A	8198	1	369	
7556	15607	A	8199	1	416	
7557	15608	A	82	999	1523	WEMVEIWSYSSSEQEHLIKLSYQRIKPL PHAHWWPFNPSPGLPPEASK*PPG*TLGLI FLGKKA*LQTFPLNYIRLENMQPRHGG CPVIPTLWKAEVGRSLELRSLRPAWATR RNPSTKNPKLAGGARHL*SPGTPEAEV GGSPPEP/GGRQGSSELRSRHCTPAWQHSE TPIS
7558	15609	A	820	1362	1647	
7559	15610	A	8200	2	396	
7560	15611	B	8201	1	555	MESTYMPINSGLDKENVESECKAYNPRP FCKTYTMDKQPLNTGEQKDMTEFFDLI TKIEEMSPESLRCEELHLHAENLSRRV WELLMLLPTCPNMLMAFQNISDEQGSYS DLYPDSDDSSDQVENSKNWSCKISSN FTSSSKTIWYFSAVWEQLRYTLDNVNL KKS VIIQKDSSEYED*
7561	15612	A	8202	1	901	
7562	15613	A	8203	1	407	

7563	15614	A	8204	2	1149	PDLELP RARPQLVNSPGADKMETNSSLP TNISGGTPAVSAGYLFDDIITYLVFAVTF VLGVLGNGLVIWVAGFRMTHVTITISYL NLAVADFCFTSTLPFFMVRKAMGGHWP FGWFLCKFVFTIVDINLFGSVFLIALIALD RCVCVLHPVWTQNHRTVSLAKKVIIGP WVMALLLTLPVIRVTTVPKGTGTVACT FNFSPWTNDPKERINVAVAMLTVRGIIRF IIGFSAPMSRIVAVSYGLIATKIHKQGLIKV QVRP*GALSFVAKAFFLCWSPYQVVA P**PTSQESREVNCKGMYQRKLGIAVDV NKVPLAFFNS/CAFNPMLVFMG/QDFR ERLIHALPAKSGRGLTEDFNPKVPVQLT NSTLPSAEVALQAK
7564	15615	A	8205	2	386	
7565	15616	A	8206	2	294	
7566	15617	A	8207	541	711	SEVSAMVFLFFFF/CFFEMESRSAAQAGV QWCNLGSLQALPPRFTPFCSLSLPSSWD Y
7567	15618	A	8208	2	1730	
7568	15619	A	8209	1	183	
7569	15620	A	821	10289	10708	SQHFGLRQEDHLRSGVREQPGQHGKT PYLLKIQKLARRSGACL*SQLLRRLRQEN RLNPGGVGCSEPRLLHHCTTAWTLQ*DPV SKKLKKKYIERQRYHQHMKHPWSTKIQ YVCMG*HRSVEKQIIQTLCMFVFTHTY
7570	15621	A	8210	3	320	
7571	15622	A	8211	2	198	
7572	15623	A	8212	110	363	
7573	15624	A	8213	1	849	
7574	15625	A	8214	1	993	
7575	15626	A	8215	23	627	
7576	15627	C	8216	79	171	MDISGTKCDFTVQVQLRFCLSETKATQP TN*
7577	15628	A	8217	3	630	
7578	15629	A	8218	1	188	
7579	15630	A	8219	1	2295	
7580	15631	A	822	662	766	
7581	15632	A	8220	143	5972	
7582	15633	A	8221	3	753	
7583	15634	A	8222	57	272	
7584	15635	A	8223	1	218	
7585	15636	A	8224	180	293	
7586	15637	A	8226	3	145	
7587	15638	A	8227	16	546	QLNGRSIRHEVMShrkFSAPRHGSLGFL PRKRSSRHGKVKSPKDDPSKPVHLTA FLGYKAGMTHIVREVDRPGSKVNKKEV VEAVTIVETPPMVVVGIVGYVETPRGLR TFKTVFAEHISDE/CRLPLRQKKAHLME IHVNGGTVAEKLDWARERLEQQVPVNP VFGQDEMIDVI
7588	15639	A	8228	3	348	TRHIVREVDRPGSKVNKKEVVEAVTIVE NTPMVVVGIVGYV/ETPR/GLRTFKTVFA EHISDECKRRFYKNWNKSKKIDLKFDITT SKLCHGRLQTMEEKKAFMGPLKKDRIA KEEGA



7589	15640	A	8229	1	956	VNHAPAHASDGVMSHRKFSAPRHC\SLG FLPRKRSSVRHKGKVSFPMDDPSKVPVH LTAFLGYKAGMTHIVRE\VD RP GSKVN KK\EVVEAVTIV*DTTHWCLLGIVGYVG NPSEGLRD\TFKTCLLLEHISY*MPRRRFL *RIWALKS*EGRPLPKYCKEIGKDED\GK KPAWKDFQQH*KKLLAQVHPCSIAQT QMRLPL\ROK\KAHLMEIQVNGGTVA RESWDWAREKLE\QQVPVNQVFGQDEM NDV\GVTKGK\GFKGVTRSWPTN*LPFK A\HLGLSRVACFGAWHPARAHWHVAR AGQKGYPYTLLVHSDL
7590	15641	A	823	749	853	
7591	15642	A	8230	1	375	
7592	15643	A	8231	1	399	
7593	15644	A	8232	2441	2706	FCFGLSCSLPFFFFFFFEMESRSVAQAG VQWCDLSSLHPLPPG\SSNAPASASRVAG TTGAYHQCLANFGFVFLVETGVSLCWL GWS
7594	15645	A	8233	1275	1749	ILFWIIQLNLECSEFSWRLRQGRGIMLFFF PFLFFETESHVAQTGVQWCDLGSLOP PPGLSDSPALASSVSWITDVRHHLWLIF VFLVETGFRHVGOASLKLPTSGDLPTLA SQSAGITGVSHYAWLIFVFLVETEFHHV GQAGLELLAPSDPPA
7595	15646	A	8234	3	200	DALAFVIKVFAAEEVDGCSVTIGS/HNH SVASGSNHRTRFCFTVYLSSIVSWRY*SC RCRECRGRAF
7596	15647	A	8235	1	1214	
7597	15648	A	8236	24	183	
7598	15649	A	8237	256	491	
7599	15650	A	8238	243	385	
7600	15651	A	8239	3	403	SCYGFNVRGQVSDGGQLRSINGELYAP LQHNHVNVEGATHKQVVDLIRAREKEL ILT VLSVPPHEADNLYPSDDSLGQSFYDY TEKQAVPISVPRYKHVEQNGEKFVVYN VY MAGRQLCSKRYRQFQAILHQN
7601	15652	B	824	1	855	MDVVDPDIFNRDPRDHYDLLQRLGGGT YGEVFKLFAKCYTCIHTYDAMRVLFLM TKSGSQLPRLKEKGKWKYERTGGRSAN VHYIIVCESVHFLPILLPTLSTKPLSPEL NAAASYVPFPIIHIDTAASMCYLFHMY VGVRAGGGIGDEIEDPAGDEYELRVVF DITFFFFVIVILLAIHQGLIIDAFGELRDQ EQVKEDMETKCFICGIGSDYFDTTPHGFE THTLEHNLANYMFFLMYLINKDETEHT GQSRALCRAFRGMRETGDLVRALKELA V*
7602	15653	A	8240	1	706	
7603	15654	A	8241	323	496	
7604	15655	A	8242	1	483	
7605	15656	A	8243	2	740	
7606	15657	A	8244	249	390	
7607	15658	A	8245	24	426	
7608	15659	A	8246	1	240	
7609	15660	A	8247	935	1150	
7610	15661	A	8248	190	584	
7611	15662	A	8249	201	364	
7612	15663	A	825	65	290	HLVSSLAKGKLAVRQAPFARVPPQHP*V KVKNWDPLLQPPPCRGLALKVTGCRVL GTEGLPHLKDFPIRAATQPL
7613	15664	A	8250	1	1122	

7614	15665	A	8251	1	1197	MHKDWVVFVDSGEHKEALLHELQLCDS TLKPAAHGQTRLVDLSLEHKAQGTGA HVYEERHQVSVSRDDVGCVPSECLAR ACGAEVGCSNIAYPKLVMELMPI/GFSG AGDFPGPPLSNPLFLEAFDPSGLRGLMIA VMLAALMSSLTSIFNSSSTLTMDIWRRL RPRSGERELLVGRGTGIPSTPPAPQSRLSF LLPETPPLERYLLGLVVM DLWL VIVALIG VSVAVIPVLQDSNSGQLFIYMQSVTSSL APPVTA VFLGVFWRRANEQGAFWGLI AGLVVGATRLVLEFLNPAPCGEPDTRP AVLGSIHYLHFGVALFALSGAVVVAGSL LTPPPQSVQIENLTWWTLAQDVPLGKA GDGQTPQKHAFWARVCGFNAILLMCVN IFFYAYFA
7615	15666	A	8252	1	624	
7616	15667	A	8253	88	627	
7617	15668	A	8254	3	437	
7618	15669	A	8256	220	415	
7619	15670	A	8257	2	359	
7620	15671	A	8258	1	1270	RTRGRTRGELVLESGEWRWLLERCRPG GAVALILLA AVVSICAVSQHAPPWTEDC RKSTYPPSRPTYRGAVP WDTI/HVLDLPP YKRWDELM LDMAPV/LSKVIVNSLKNMI NTFVPSGKIMQV VDEKLPGLLG NFPGP FEEEMKGIAAV/SLDIPLGEIISFNIFYELF TICTSIVAEDKKGH LIHGRNMGFGVFLV WNINNDTWVITEQLKPLTVNLDFQRNN KTVFKASSFAGYVGMLTGFKPGLFSLTL NERFSINGGYLGILEWILGKKDAMWIGF LTRTVLENSTSYEEAKNLLTKTKILAPAY FILGGNQSGEGCVITRDRKESLDVYELD AKQGRWYVVQTN YDRWKHPFFLDDRR TPAKMCLNRTSQENISFETMYDVLSTKP VLNKLTVYTTLIDVTKGQFETYLRDCPD PCIGW
7621	15672	A	8259	108	988	TARGSKARSGGTRWSLGPSSSGGRRSW QPLVISRAV*H*GKSSRHQPLYSGHPLHG PVSHRGGPGPVRQPAAT*RPACASKLVQ PWH*WGP*LGSPALAGHL CRTGCEES HHTCFPGYVKP*RL*ALPGGRP*VGER ARARPDEPREAAGFCGTEEQPHTDPAHP RLKRDCL/PSVSQAAVSTTASAGFPPAW AASAGFPPTWTPNLSPATLGMQRSSCAL TFRICRFLSDNKWMQRSITSM AIWICN GSGGSTSGRVSFSSTLGGTDCSSSSLSKS ETFPSATSFSLR
7622	15673	A	826	230	652	GLSAPVAADPSLEPTALHASIRPEADLQ P*PRTPLRSWGS/PGVRSPTGDPSGVT RLHRAIHQ/PITISSSTWVTCTGPLCSVLIS PSQGESAPKRTVLEEHLRPPGAHADA HSGQLRAWPGQQREHGQEASQWEQHP
7623	15674	A	8260	1	319	
7624	15675	A	8261	19	373	AVFFFFFFFFFFFFFFFFFFFFFFFFFFFFF FFFFSSSSSSFFFFSFFLFFFFKLKELRLVI *PLNPEN*ESCLFSPVNLDMPTFKDKR WKVNWARSTSRQQLLESARTKSWAERE GGTRWRAW
7625	15676	A	8262	227	420	KNFLPNCSAKELFFFFFFFFFLLLLLLL LYFKF/MI*WFKHLAFLLAFILSPTAL* RGVFHH
7626	15677	A	8263	400	582	
7627	15678	A	8264	1205	1681	
7628	15679	A	8265	1	403	
7629	15680	A	8266	3	397	
7630	15681	A	8267	36	446	

7631	15682	A	8268	1	453	RHERHERHEELMTEGEDQFDVGSAAAR KEIIRNKIRAIGKMARVFSVLREESESFLT LKGLTPTGMLPSGVLAGGRQTLQSATVE AIEAEKAIRGFSPPHRCSFEEAKGLDRIN ERMPPRKDAVQQDGFNSLNTAHATENH GTGNHTAQ
7632	15683	A	8269	644	809	
7633	15684	A	827	108	1102	RMTQCLSECLICKFLSGKVTLGQAQWLT HVIPALWEAEAGRSPEVGRSRPSLAGMV KSRL/VLKIQKKKKKKISRAWWHMPV VPATWEAEAGELLEPGKA EVAARRDRA TALPAWGSQADGK*G*GLSAPVAADPSL EPTPALHASRRPEADLQ*PRPPPLRSWG SQVCEVPLGTTPPGSPASQSHPTSPYL PLPGSPARVPCARCSSRPASKRARQSAPC GRAPTPAARGSRRTQRAAQLARSAA RTRTEASAVGTAPAAGRTGRGGPDQOE FVHGLVPLKQDNGRLQCTAQERAPRAR TLRHTARPAAFGVLDLGGNHVLPQC
7634	15685	A	8270	37	235	
7635	15686	A	8271	2	230	
7636	15687	A	8272	516	693	
7637	15688	A	8273	2	434	
7638	15689	A	8274	3	417	RQAWHKAGLHAADWAGRARSLLGDSDH TSWSAGSIPGKHYQAVGLHLWKVEKRR VNLPRVLSMPPVAGTVCHAYDREVHLR CELSPGYLA V PSTFLKDAPGEVLLRVFS TGRVLSAIRAVAKNTTPGAALPAVERG T
7639	15690	A	8275	308	614	HGSHGIALRPRQSQAQPLVHKVCCFQEE QMGAPGKGPECGSRICLLAQGLGFHL VCLDRV*HLAPHCSLSLHGCCPHDVPFL VAKRSFLGLEGPLSSSP
7640	15691	A	8276	11	161	
7641	15692	A	8277	163	437	
7642	15693	A	8278	1	660	
7643	15694	A	8279	2	1246	SCSAPEELCSLRPTLGARRGNCEAKVTG DRAFQICSVDLGAPPMLAARLVCLRTL PSRVFHPAFTKASPVVKNISITKNQWLLT PSREYAT*T*/RLGIRAWGELGQELKEGS IGNHSMGKNILKFDSGEEWLVA/GGA/ VVGLGSICAYLLALGL/GLN*DLGAI*KR L*FGPQYVKDRNHSTYMYLAGGVLGLT A/LSAIAIQNRLLFFMELP*WRLLGWTI GVDLWQPWLGAGMLVRSIPYDQSPGPK HLAWLLHSGVMGAVVAPLTILGGPLLR AAWYVTAGIVGGLSVTVA/MCAPSEKFLN MGAPLGSGAGVSFVSSIGI*CFPPPTD/T VAGATLYSVVAMYGGISSFLSMFLLYDT PESKSSRAEVSPMYGVQKYDPINSMLS IYMDTLNIFMRVATMLATGGNRKK
7644	15695	A	828	241	1104	
7645	15696	A	8280	325	432	
7646	15697	A	8281	1	293	
7647	15698	A	8282	1	366	
7648	15699	A	8283	780	891	
7649	15700	A	8284	44	155	
7650	15701	A	8285	336	414	
7651	15702	A	8286	1	294	KLDTVVEFPIRGLNMSEFVCNMSARPYV YDLIAVSNHYGAMGVGHYKAAYVLFY QRRDDEFYKTPSLSSSGSSDGGTRPSSSQ QGFGDDEACSMDTN
7652	15703	A	8287	302	486	
7653	15704	A	8288	1	620	
7654	15705	A	8289	1	804	
7655	15706	A	829	95	462	

7656	15707	A	8290	164	399	
7657	15708	A	8291	1	2226	
7658	15709	A	8292	876	1102	
7659	15710	A	8293	2	426	
7660	15711	A	8294	1	128	
7661	15712	A	8295	33	279	
7662	15713	A	8296	198	779	
7663	15714	A	8297	1	441	
7664	15715	A	8298	132	700	
7665	15716	A	8299	303	617	AKPSSGFECRSRFAFLSKECGKQLGPSSSS ALSLSGSFFHLGAPS*PRTPRKSDGARCR PHPPSSMIGVQLLLGGCLAQHPHRAQL LDADVPTTISIKHVKGQP
7666	15717	A	83	2	448	LHCCPLQLKMOVACRAIGILSRFFAFRFLR SRGYICRNFTGSSALLTRTHINYGKGD VAGARVNSTNSKVNTLITELQSQFSQVM NEILSSYQIRRAVLISSEKPGCFIASSDINIL TACMTL*EVSHRSSEAQIIVQKLEMTTLS IVA
7667	15718	A	830	2	648	
7668	15719	A	8300	50	257	
7669	15720	A	8301	110	179	
7670	15721	A	8302	187	571	
7671	15722	A	8303	2	150	
7672	15723	A	8304	227	857	GDSRSRVTRRQDTAWNAWSASHCRRLS ASSRSPLTGPASVGGMAATGANAESAES HNDPCPVRLNPNIAKMKEDILYHFNLT SRH/NFPQALFGDVAKFVCVGGSPSRNEK PSSGCRLGAEVGLDCPGRDYPNICAGTD RYAMYKVGVPVLSVSHGMGIPSISIMLHE LIKLLYYARCSNVTIIRIGTSGGIGLEPGT VVITEQAVDTCFK
7673	15724	A	8306	1	714	
7674	15725	A	8307	225	382	
7675	15726	A	8308	2	862	FLSVLPHSRALLTPKRAPKKKMAISGVP VLGFFHIAVLMSAQESWAIKEEHVHQAEP YLNPDQSGEFMFDFDGDGDEIFHVDMAKK ETVWRLEEFGRFASFEAQGALANIAVDK ANLEJMTKRSNYTPITNVPEVTVLTNSP VELREPNVLICFIDKFTPPVNVNVTWLRNG KPVTTGVSETVFLPRIEDHFFRKPHYLP FALPSTEDVYDCR\VEHWGLDEPLLKH EFDAPSPLPETTENVVICALGLAVGLVGI IIGTIFHHSRELKSNCRQKRKGGLCKAQ WR
7676	15727	A	8309	2	223	
7677	15728	A	831	90	401	
7678	15729	A	8310	1	3252	MELSVTLVSRAPRGLPVFRQLNTAIAVS QMSSGQCRLAPLIQVIQDCSHLYHYTVK LLFKLHSCLPADTLQGHRDRFHEQFHS RNFFRRASDMLYFKRLIQIPRLPEGPPNF LRASALAEHIKPVVVIPEEAPEDEEPENLI EISTGPPAGEPVVADLFDQTFGPPNGSV KDDRDLOIESLKREVEMLRSELEKIKLEA ORYIAQLKSQVNALEGELEEQRKQKQK ALVDNEQLRHELAQLRAAQLEGERSQ
7679	15730	A	8311	3	3253	
7680	15731	A	8312	1	673	
7681	15732	A	8313	177	393	
7682	15733	A	8314	177	400	
7683	15734	A	8316	1	473	

7684	15735	B	8317	549	602	MWWNSLDGIRNIVLSNPKKRNTLSLAM LKSLSQSDILHDADSNDLKVIIIISAEQPVFS SGHDLKELTEEQGRDYHAEVFQTCISKV MMHIRNHPVPVIAMVNLATAAGCQLV ASCDICRGERQDLFCHSWVPRKVALEM LLTGEPISAEALLHGLLNKGGPEAELOE ETMRIARKIASLSRPGVSLGKATFYKQLP QDLGTDYILT SQAMVDNLALRDRQEGI TAF LHKRKPVSHEPV*
7685	15736	A	8319	272	364	
7686	15737	A	832	276	488	
7687	15738	A	8320	1	322	
7688	15739	A	8321	37	344	
7689	15740	A	8322	3	412	
7690	15741	A	8323	37	438	
7691	15742	A	8324	2	424	
7692	15743	A	8325	543	848	
7693	15744	A	8326	2	242	
7694	15745	A	8327	2	246	
7695	15746	A	8328	294	402	
7696	15747	A	8329	259	350	
7697	15748	A	833	186	537	IWFPLRRRKARQEEKSGLGAPRSPSHNY PPGYLGCLGKTINTS*TYILDQSNIGKRV AILN*ILGGRKLRLKSLSCQPKVEELYE RVAW/IP*KPGCLLLSVKVRNVFDWCT WVY
7698	15749	A	8330	2	409	RPPPPVSSVPGPGRDQLGVTPLSGRHSLL CCWVRIVFPESDGAP*MASFPPRVNEKEI GKLLNLVDHTEVVRDLTFAPDGSLLV SASRDKTLRVWDLKDDGNMMKVLRGH QKLVYSCAFSPDSSMLCSVGASKA
7699	15750	A	8331	453	684	SLRFVLSVFCQSLLLGAESSKYDTRETP KAWKESAAPELLGWAHSSGLTCDIKCC RARDLPWSPGPKIHTSVMCPSS
7700	15751	A	8332	1	92	
7701	15752	A	8333	67	301	
7702	15753	A	8334	3	276	
7703	15754	A	8335	1	564	
7704	15755	A	8336	1	364	
7705	15756	A	8337	3	103	
7706	15757	A	8338	1	744	
7707	15758	A	8339	3	266	
7708	15759	C	834	79	405	MIGGTPQMFFISGAKQWSPSLQPPRA HRSSPWAPSSKSTSGGTAALGSLGSKDY FPRTGDGVVELRRSDQRRHLPGCPTVL RTLLPQQRGDRDLQQLRHHELRL*
7709	15760	A	8340	481	637	
7710	15761	A	8341	1	3335	LNLFIEIVLCKNLALDINELKPGNLLKD KDRLKNLDEQLSAPKKDVQPEELPPITT TTTSTTPATNTTCTATVPPQPQYSYHDIN VYSLAGLAPHITLNPITPLFQAHPQLKQC VRQAIERAVQELVHPVVDRSIKIAMTTC EQIVRKDFALDSEESRMRIAHHMMRN LTAGMAMITCREPLLSISITNLKNSFAS ALRTASPQREMMDQAAQLAQDNCE LACCFIQKTAVEKAGPEMDKRLATEFEL RK
7711	15762	A	8342	1	520	KMDSTEPPYSQKRYEEIVKEVSTYIKKIG YNPDTVAFVPISGWNGDNMLEPSANMP WFKGWKVTRKDGNASGTTLEALDCIL/ PPTRPTDKPLRLPLQDVYKIGGIGTVPG RVETGVLPKPGMVVMHHEALSEALPGD NVGFNVKNVDVKDVRRGNGAGDSTNE PTMEANGFT
7712	15763	A	8343	1	443	

7713	15764	A	8344	41	665	
7714	15765	A	8345	2	394	ADIERLRMRVMAAAATHASAI SGWNGD NMLEPSANMPWFKGWK VTRKDG NASG TTLEALNCGIGTVPVGRVETGVLKPG MEVTFAPGNVTTEVKSVEKHHEALSEAL SGDNAGFNVKNVSVKDVRRGNV
7715	15766	A	8346	1	461	MLLEALDCILPPTRPDKPLHLPLQDVY KIGGIGSVPVGRVETGVLKPGMVVTFAP VNVTEVKSVEMHHEALSEALPGDNVG FNVKNVSVKDVRRHGNVAGDSKNPPM EAAGRFAVRDMRQTVAVGVIAVDKK AAGAGKVTKSAQKAQKAK
7716	15767	A	8347	1	743	
7717	15768	A	8348	208	945	NWFKGWKVTRKDG NASGTTLEALDCI LPPTRPDKPLRLPLQDVYKIGGIGTVPV GRLETGVLKPGMVVTFATVNVTEVKS VENHLVAPLDCPRTPFGRTPSTYIKKIG YYPDTLAFEPISGWNGDDMLEPSANMP WFKGWKVTRKDG NASGTTLEALDCIL PPTRPDKPLRLTIQDVYKIGGIGTIVG RVETGVLKPGMVVTFAPVNGTT*VKS AMHHEALSEAHSVDNVGFNVKNV
7718	15769	A	8349	1	1434	RGITIDISLWKFETSKYYVTIAPGHRDF JKNMITGTSQADCAVLIVAAGVGEFEAGI SKNGQTRHALLAYTLGVKQLIVGVNK MDSTEPYSQKRYEEIVKEVSTYIKKIGY NPDTVAFVPISGWNGDNMLEPSANMPW FKGWKVTRKDG NASGTTLEALDCILP TRPTDKPLRLPLQDVYKIGGIGTVPVGR VETGV/LFVPISGWNGDNMLEPRANMP WFKGWKVTRKDG NASGTTLEALDCILP PTRPTDKPLRLPLQDVYKIGGIGTGPVGR LETGVLKPGMVVTFAPGNVTTEVKS VETLHEALSEAFPGDNVGFNVKNVSVKDV R HGNVAGDSKNPPMEAGFTAQVILNH PGQISTGYAPVLDCHTAHACKFAELKE KIDHRSGKKLEDGPKFLKSVDAAIVDMV PGKPMCYESFS DYPSLGCFVRDMRQIV TVGVIAVDKKTAGAGKVTKSAQKAQK AK
7719	15770	A	835	1	321	
7720	15771	A	8350	1	1254	
7721	15772	A	8351	1	1195	
7722	15773	A	8352	1	2471	MGKEKTHINIVVIGHVDSGKSTTTGHLIY KCGGIDKRTIEKFEKEAAEMGKGSFKYA WVLDKKAERERGITIDISLWKFETSKY YVTIAPGHRDFIKNMITGTSQADCAVL IVAAGVGEFEAGISKNGQTRHALLAYT LGVKQLIVGVNKMDSTEPYSQKRYEE MWLREVSTYIKKIGYNPDTVAFVPISGW NGDNMLEPSANMPWFKGWKVTRKDG NASATTLEALDCILPPTRPDKPLRLPL QDVYKIGGIGTDPAGRVKTGVLKPGMV/ VAPFAPVNGTTEVKSVEMHHEALSE/AL LLGDKGAFNVKNVSVKDVRRGNVAGD SKNDPPMEAS/GFTAQVILNHP/SQKNAR HMPLELDCHTAHACKFAELKEIDRRS GKKLEDGPKFLKSGDAAIVDMVPGKPM CVESFS DYPP LGRFAVRDMRQTVAVGVI KAVDKKAAGAGKVTKSAQKAQKAK
7723	15774	A	8353	184	819	ETEIKMASRGKTETSKLKQNL EEQLDRL MQQLQDLEECREELDTDEYEETKKTLE QLSEFNDSLKKIMSGNMTLVDEL SGMQL AIQA AISQAFKTPKVIRLCGKK/HHPVQL RPR*AEMDRDLMVGKLERDLYTQKQVE ILTALRKLGEKLTADDEAFLSANAGAILS QFEKVSTDLGRPPSYMNYLLDSHPSKNI DVPSKISFLLKIQDL

7724	15775	A	8354	1	387	
7725	15776	A	8355	3	1022	FLASLQWVQTSSFSSEKFVITDLLKPTSV NLSKSFSVQLCSIAAGSLRPTPEIQEVKTP EELETFMLKHGENIIDTLGAEVDRLEKEL KSGSLVPCIPAAVTKRGQGTAPAIASV GGSPKPWQLPRGVGPVGAQKSRTVWK SLPRFQRMYGKHLDAQNDRSTDLSHSAP GKATDTQCQPLKAAKSGLYPAELKRWS CPWLWEPTFCISVTWSDLEQLRKIRRRSP HEDTESFTVYLRSDVEAKSLEVWGSPEA LAREKKLRKEAEIEYREKGSINSATLI/EF SRYLSDTRY/RTRSCAWCLKICKIIPSTM ANSCSPNTCSLCLLYSSPALPWTLKFA
7726	15777	A	8356	4	516	
7727	15778	A	8357	1	248	
7728	15779	A	8358	3	4135	
7729	15780	A	8359	2	417	
7730	15781	A	836	101	290	
7731	15782	A	8360	43	239	
7732	15783	C	8361	141	356	MSFDCGFGTLP LLLSPICCLGSYSNKVISP GLXXXXXXXXXXGGALLKDPWGGPIFP GGGKKFFFLFGGGF*
7733	15784	C	8362	22	159	MRGVFPLFPLKXXXXPKGLKIXXXGPI MSPPQKKVPFQKSQGGF*
7734	15785	A	8363	64	240	TLKFWKEGGPPISPQKKGPFKIPRGGL *GPPKKKKNFSPPPVKLGPPKGIFKRAP P
7735	15786	A	8364	19	471	
7736	15787	A	8365	3	399	
7737	15788	A	8366	186	840	
7738	15789	A	8367	7	633	PTITNVWSETSQELADGLRRGSQGDSDVQ QNGPPRKHIVERYTEFYHVPTHSDASKK RLIEDTEDWRPRTGTTQSRFRILAQITGT EHLKESEADNTEKANNSQEPSQLASSV ASTRSMPELSDPTSGRPGVTSLTAAAF KPVGSTGVKSPSWQRPNQGVSTGRISN SAAYSGSVAPANSALGQTQPSDQDTLVQ R*PTITNVWSETSQELADGLRRGSQGDS VQQNGPPRKHIVERYTEFYHVPTHSDAS KKRLIEDTEDWRPRTGTTQSRFRILAQI TGTEHLKESEADNTEKANNSQEPSQLA SSVASTRSMPELSDPTSGRPGVTSLTAA AAFKPVGSTGVKSPSWQRPNQGVSTG RISNSAAYSGSVAPANSALGQTQPSDQD TLVQRAEHIPAGN
7739	15790	C	8368	78	386	MTHLEAQNKIKGCTGSLNMTLQRASAA PKPEPGSCSKAHSHQRFVDFSGASRG REEDPRVTNTQNGKIPPKRPPKPHCG ALYRVLSCTHFTVMPARRD*
7740	15791	A	8369	20	442	
7741	15792	A	837	21	215	
7742	15793	A	8370	49	354	
7743	15794	A	8371	239	401	
7744	15795	A	8372	141	351	
7745	15796	A	8373	239	474	MRMVTWWRGVFLATSPSPPRPSQLEKQ YTALYRKATSPN*FAPNCYPDPQPHLG* LAPVAHVPL*QRRKAESPSSN
7746	15797	A	8374	1	740	MVSDIRKEDGMNVLP LKYIPNVGVNFSF AGVYLASETLPGSAHPEATSRGAVATG TTHLASAVEPNGDSWCKQSRPRVSVHYI RINITGWVCTCCDIERNIMLSPLNIRNNI TARLRPKTGTQMPLREQRYTGIDENAHV VERRVF/RVPALHLRRPSQLEKQYIALYR KATSPN*FAPNCYPDPQPHLDRLAPVAH FPL*Q*RKAESPSSN*VARGTCTS*LSKP RTVWKDPVARNRPPVGPT

7747	15798	A	8375	803	985	
7748	15799	A	8376	1	319	
7749	15800	A	8377	339	808	GSQSQGGNRGWFSVPASRGVPPPAVMG VLRARGGRGAGSQSPPPGGCLPPMRWG SGATRSGLWWETSDGLEPTPSRRWWG SS*TL/GGSPVQVY*LVTPDSGSSH*KANS FCLSGDNLIGKKASFRSKQVNLSSAGS KPNNVDDLGLTVGCKVSVA
7750	15801	A	8378	588	2278	GWAHGGEACFCVPALHLCRPSOLEKQY PVLY*KATSSN*FAPNYYPDP*PHLG*LP PW
7751	15802	A	8379	779	986	ELQLYWLCKKPPIDIRSHWKSC*AGISTS RLCQLPKR*GSGVLPADSMMRGKVS SAWHRSLWSSPL
7752	15803	A	838	158	955	KMTSSSEQEEDEKNNQSATPRQTGPATT MNSKGQYPTQPTYPVQPPGNPVYPTLH LPQAPPYTDAPPAYSELYRPSFVHPGAA TVPTMSAAFPVASLYLPMASVAVGPL VSTIPMAYYPVGPIYPPGSTVLGGKGG YDAGARFGAGATAGNIPPPPG\CPNAA QLAVMQGANVLVTQIRKGNFFMGGSDG GYTHLVRNQGHLCAREKTSHTLQHFSSQ CNCFSHINLKLQFRHMLLGLSGAQTFR HFSNLIRNHVMVAVPP
7753	15804	A	8380	179	795	PAFFLIPGCAPPVG**IPSNVPAVGRSDFF SWTPYTHSPPDAGVEHPPWRTRLPWG VPAKGHQRGTGATRS LGFWWDTSGGLEP TPPRRWGSS*LEEARKCTE**HLTPD LPTERQTASGSQGRIC*RKHLS/WSKQV KQLSSAGSNPSNVYGLG/DCWM*SHCSL LNQAQILSRPVVGLRLGNRQEGSVPW LTRNYHSKGS
7754	15805	A	8381	1	1029	
7755	15806	A	8382	989	2798	
7756	15807	A	8383	2	396	
7757	15808	A	8384	3	1773	PGGRQQQAEGIMVQYELWAALPGASGV ALACCFVAAAVALRWSGRRRTARGAVV RARQKQRAGLENMDRAAQRFRQLQNPDL DSEALLALPLPQLVQKLHSRELAPEAVL FTYVGKAWEVNKGTCNVTSYLADCETQ LSQAPRQGLLYGVPVSLKECFTYKQDS TLGLSLNEGVPACDSVVVHVHLQGA VPFVHTNVPQSMFSDCSNPLFGQTVNP WKSSKSPGGSSGEGALIGSGGSPLGLG TDIGGSIRFPSSFCGICGLKPTGNRLSKSG LKGCVYQGEAVRLSVGPMARDVESLAL CLRALLCEDMFRLDPTVPPLPFREEVYTS SQPLRVGYETDNYTMPSPAMRRVLE TKQSLEAAGHTLVFPLPSNIPHALETST GGLFSDGGHTFLQNFKGDFVDPCLGDLV SILKLPQWLKGLLAFLVKPLLPRLSAFLS NMKSRSAGKLWELQHEIEVYRKTVIAQ WRALDLDVLTPLAPALDINAPGRAT GAVSYTMLYNCLDFPAGVVPVTVTAE DEAQMEHYRGYFGDIWDKMLQKGMKK SVGLPVAVQCVALPWQEEVCLRFMREV ERLMTPEKQSS
7758	15809	A	8385	660	772	
7759	15810	A	8386	27	372	
7760	15811	A	8387	685	769	
7761	15812	A	8388	305	425	
7762	15813	A	8389	308	410	
7763	15814	A	839	217	491	
7764	15815	A	8390	3	501	
7765	15816	A	8391	4	318	
7766	15817	C	8392	340	474	



7767	15818	B	8393	317	702	LAEWRPREPMQRKLKVTSLPGTVVITE QAVDTCFKAEFEQIVLGKRVIRKTDLNK KLVQELLCSAELSEFTTVVGNMCTLD FYEQGGRLDGALCSYTEKDKQAYLEAA YAAGVRNIEMESSVFAAJ*
7768	15819	A	8394	209	581	
7769	15820	A	8395	227	1302	GDSRSRVTRRQDTAWNAWSASHCRRLS ASSRSPLTGPASVGGMAATGANAES HNDPCVRLNPNIAKMKEDILYHFNLT SRHNFPTLFWFKFGLFGGNPSRMKPF RCLGPEIGLDCPVRDYPNICAGTDYAM YKVG PVL SVSHGMGIPSIIMLHELKLL YYARCSNVTHIRIGTSGGIGLEPGTVVITE QAVDTCFKAEFKQIVLGKRVIRKTDL NKKLVQELLVSAELSEFT/TTVVGNM CTLDFYEGQGRLDGALCSYTEKDKQA YLEAAVAAARVPQLFEMESSVFAAMCS ACGLQAAVVCVTLNRLEGDQISSPARN VLSEYQQRQPQLVSYFIKKLSKA
7770	15821	A	8396	3	337	
7771	15822	A	8397	2	375	NHEKDDNSLKIIISNASCTTNWLTPLAKGI HDNFGIVEGLMTTVHAITATQKTGDGPS GNWGVMAAGLSKTSSLPLLG/LGKAGG KVIPELNGKLTGMAFRVPTGNVAGVDLT CRLKKPGKYDDIK
7772	15823	A	8398	3	1141	IRHEVRQSAASSFASPAEHRSDTMGKV KVG VNGFGRIGRLVTRAAFNSGKVDIVA INDPFIDLNYMVYMFQYDSTHGKFHGT VKAENGKLVNNGNPITIFQEPKIPSKIV GGDAGRLKYVVEFHAVFTTMEKGLG ASFCRGGAKRVNQSLPPSG*CPFCFHHG V*TIKEYDNSLKIIISNASCTTNCLTPLA KVIHDNFGVVEGLMTTVHAITATQKT GWALPGNCGVMGPRGSSRTSSLPLAA AKAVGKVNPLSLNGEAHLGMGFRVFN ANVSVDLTCRLEKPAKYDDIKKVK QASEGPLGILGYTEHQVSSDFNSDTH SSTFDAGAGIALNDHF/VSRLISWYDNEF GYSNRVVDLMAHMASKE
7773	15824	A	8399	1	374	
7774	15825	A	84	247	287	KRGFVLPPGLECGGPIWVNGR/LRLGLP PFSGLSFPGSWDYGGPPGRVKIWHFLE KRGFRGVARVGSTLLTGEPPVLGF*KPPF F
7775	15826	A	840	1789	2411	KTYWRKKVEKVVVSNRLVTSPCCIVTS TYGWTANMGENH*KLQALKETTSMG/ YYMASQRKHRGIKPLTSLIIEYLKAKRPE GLIRTDKS/VKDLVILLYETALLSSGFQS WKIPRHH*QVSYRMIKLAGLIDEDGPY LLDDTSAAVNLKELPPLEGDDDTFTHG KEVGLILLGLRGWTLPVSVLYNSSDNIF QGCFPLFLVNI
7776	15827	A	8400	127	420	
7777	15828	A	8401	3	509	KNRIKKISNLENLKS L D V L D L H G N Q I T K I ENINHLCELRLVNLARNFLSHVDNLNGL DSLTELNLRHQITFVRDNDNLPCLOHL FLSFNNISSFDSVSLADSSSLSDITFDGN PIAQESWYKHTVLQNMMLRH*DMEGE FTGRRKGVWHLF*PKKGKRKEPGKS
7778	15829	A	8402	2	384	
7779	15830	A	8403	1	430	ERVGNVCSLEISNIQKGE GGEYMCHAVN IIEGAKSFANVDIMPOEERVVALPPPEFC RSKYGFKGGRRQRTKN*FRUFEMPPRFI MPICDFKIPENS DAVFKCSVIGIPTPEVK WYKEYMCIEPDNIKYVISEEKGSHTLIIR
7780	15831	A	8404	1	12064	
7781	15832	A	8405	2	383	
7782	15833	A	8406	1	1677	

7783	15834	A	8407	2	2580	GQKKLVILNKSDLVPKENLESWLNLYLK KELPTVVFRASTKPKDKGKITKRVKAKK NAAPFRSEVCFGKEGLWKLLGGFQETCS KAIRVGVI GFNPVVGKSSINSLKQEQMC NVGVHGGGLQGSQVPLD\KQITIDISP SFIVSPLNSSALALRSPASNEVVKPM EA ASAILFQAD\VRQVVLYKYPGLQGLW EFFTMLAQKREVWHQKGGUPKCLEGA AKLLWSEWTGASLAYYCHPPTSWTPPP YFNESIVVDMKSGFNLEELEKNNAQSIR GENCVSLLSSADRPVELLPVYMGLLSFP AIKGPHLANSILFQSSGLTNGHIEEKDIHE ELPKRKRKQEEERDDKSDHETVDEEV DKKLD SMGSKRRRATSPSSSVSGDFDDG HHSVSTPGPSRKRRLSNLPTVDPIAVCH ELYNTIRDYKDEQGRLLCELFIRAPKRRT DSEIYEDAVELQQFFIKIRDELCKNGEILL SPALSYTTKHLHNDVEKERKEKLPKEIEE DKLKREEEKREVEGHIQLHYCTNPDSKPK YPAQRT PQIHLQGEVL FYESKFRTLEEVT VVLDTHIISINQPDYEVVSQPIDLMKIQ QKLKMEYDDVNLLTADFQLLFNNAKS YYKPDSP EYKAACKLWDLYLRTRNEFV QKGEADDEDDDEDGQDNQGT VTEGLLK ISITQKIRPVVILFHYGESWNLRLADQRLI FAKSWPRASRYQQGHQDLFILRSDLP SQ VFIRDKLMERRNRRTGRTEKARIWEVTD RTVRTWIGEAVAAAADGVTFSPVPTP HTFRHSYAMHMLYAGIPLKVLQSLMGH KSSISSTEYTKVFALDVAARHRVQFAMP ESDAVAMLKQLS
7784	15835	A	8408	2	259	
7785	15836	A	8409	1	257	
7786	15837	A	841	225	336	
7787	15838	A	8410	3	365	
7788	15839	A	8411	2	243	
7789	15840	A	8412	2	339	
7790	15841	A	8413	2	182	
7791	15842	A	8414	2	381	
7792	15843	A	8415	59	572	SGRPF FFFFSATGACLFPPGPGR LGAEY RQRHWGTWVWHGLELGR LGSNREGCA RACRDW SHPPRTERGPSGHGITSARLG TGTGERLRSGCVQGLVGMGRPVD RAC* SVLEPGGTPGRANWALDVEKLG NKY*E NKSLWVSRP/RQRCDRCRDPWERPRLQ VTPIARQ
7793	15844	A	8416	3	1735	
7794	15845	A	8417	2	441	
7795	15846	A	8418	412	569	
7796	15847	A	8419	2	2812	RGLAVFISDIRNCKSKEAEIKRINKELANI RSKFKGDKALDGYSKKKYVCKLLFIFLL GHDIDFGHMEAVNLLSSNRYTEKQIGYL FISVLVNSNSELIRLNNNAIKNDLASRNPT FMGLALHCIA SVGSREMAEAFAGEIPKV LVAGDTMDSVKQSAALCLLRLYRTSPD LVPMGDWTSRVVHLLNDQHLGVVTA A TSLITTLAQKNPEEFKTSVSLAVSRLSRIV TSASTDLQDYTYFVPAPWLSVKLLRL
7797	15848	A	842	610	834	
7798	15849	A	8420	2	397	
7799	15850	A	8421	3	438	
7800	15851	A	8422	3	354	
7801	15852	A	8423	3	339	
7802	15853	A	8424	1	338	
7803	15854	A	8425	1	70	
7804	15855	A	8426	62	374	

7805	15856	A	8427	2	374	
7806	15857	A	8429	1	342	
7807	15858	A	843	36	351	
7808	15859	B	8430	212	587	MGKGSFKYAWVLDKCLKADRERGITIDIS LGKFETSKYYVTIIDAPGHRDFIKNMITG TSQADCAVLIVAAGVGEFEAGISKNGQT REHALLAYTLGVKQLIGGVTKMDSTEPP FRRKRYEEIVKGX*
7809	15860	A	8431	1	1386	
7810	15861	A	8432	66	1574	KLTPPKPWESVKTHINLAIVIGHVDSG KSVTTTGHLYKCGGIDTKNHLKNLTKEA AEMGKGSFKYAWVLDKKAERERGITI DISLWKFETSKYYVTIIDAPGHRDFIKM MITGTSQA*PGLGGPLFGG/CSPLIVAAG VGEFEAGISKNGQVREHALLAYTLGVK QLIVGC*QKWDSTPTPTAQKKILKEIV K/EKVSTFH*RKFGYNPDTVAFVFNFLV WNGDNMLGAQVPNMPWFQGDGKVTR KD\GNASGTTLLWRALDCILPPTPTDQ APLR\LPFQ\DVLPKIGGYLGTWFLVWPE WETGVL/RNPGMGVTFAPVNVTTVEVKS VEMHHEALSEALPGDNVGFNVKNVSV KDVRGNVAGDSKNDPPMEAAGFTAQ VIILNHPGQISAGYAPVLDCHTAHIACKF AELKEIDRRSGKKLEDGPKFLKSGDAA IVDMVPGKPMCVESFSDYPPLGRFAVRD MRQTVAVGVKAVDKKAAGAGKVTKS AQKAQKAK
7811	15862	A	8433	2	265	
7812	15863	A	8434	3	318	
7813	15864	A	8435	2	896	VGPRGMWRAGSMSAELGVGCALRAVN ERVQQAVARRP/RGDLPAIQPRLVAVSK TKPADMVIEAYGHGQRTFGENYVQEL LEKASNPKILSLCPEIKWHFNGHLQKQN VNKLMAVPNLFML\ETVDSVKL\ADKV NSSWQQRK\GSPERLKVMGPGFNTSREEI YLFVSLSLEGKHGLPPSETIAIVEHINAK CPNLEFVGLMTLGSFGHDL SQGPND FQLLSLPEETVVKS*RIPADQVELSMGL SADMQHAVEVRSTDVWIRSTVFGEPTY SKKPTPDKCAADV KAPLEVAQEH
7814	15865	A	8436	202	349	
7815	15866	A	8437	1	129	
7816	15867	A	8438	3	387	
7817	15868	A	8439	505	693	
7818	15869	A	844	3	259	
7819	15870	A	8440	46	3454	AGESIMDTDLYDEFGNYIGPELDSDEDD DELGRETKDLDEMDDDDDDDVDGHD DDHPGMEVVLHEDKKYPTAEVYGP VETIVQEEDTQPLTEPIIKPVKTKKFTLME QTLPTVYEMDFLADLMDNSELIRNVTL CGHLHHGKTCFVDCLIEQTHPEIRKRYD QDLCYTDILFTEQERGVIKSTPVTVVL DTKGKSYLFNIMDTPGHVNFSDVETAGL RISDGVVLFIDAAEGVMLNTERLIKHAV QER
7820	15871	A	8441	2	639	
7821	15872	A	8442	60	345	
7822	15873	B	8443	26	384	MHHEALSEALPGDNVGFNVKNVSVKDV RRGNVAGDSKNDPPMEAAGFTAQVIILN HPGQISAGYALYWIAIVDMVPGKPMCV ESFSDYPPLGRFAVRDMRQTVAVGVKA VDKKAAGLAS*

7823	15874	A	8444	33	99	KLPLKAKMGKEKTHINIVVIGHVDSGKS TTTGHLYKCGGIDKRTIEKFEKEAAEMG KGSFKYAWVLDKLKAERERGITIDISLW KFETSKYYVTIIDAPGHRDFIKNMITGTS QADCAVLIVAAGVGEFEAGISKNGQTR EHALLAYTLGVKQLIVGVNKMDSPEPPY SQKRYEEIVKEVSTYIKKIGYNPDVAFV PISGWNGDNMLELACSNMPWFKGMKIV TRKDGNAISGTTLLLEALDCILPPTPTDK PLRLPLQDVYKIGGIGTVPVGRVETGVL KPGMVVTFAPVNVTEVKSVEMHHEA LSEALPGDNVGFNVKKCVVSRMFRRGN VAGDSKNDPPMEAAGFTAQVILNHPAS QKNARHMPLELDCHTAHIACKFA*A*RK RFDRRSGKKLIEDGP*NSLKSG*CWPLV DMVPWASPMCV*EASQDYPPLGRFWPF RYMRQTALRLGVNQQLDKKAAAGVAG KVHQSLAQKA*KPKWERKRLISTLSSLD T
7824	15875	A	8445	2	442	
7825	15876	A	8446	76	413	
7826	15877	A	8447	524	954	
7827	15878	A	8448	3	206	
7828	15879	A	8449	3	206	
7829	15880	A	845	3	661	
7830	15881	A	8450	3	327	
7831	15882	A	8451	56	324	
7832	15883	A	8452	33	159	
7833	15884	A	8453	2	494	
7834	15885	A	8454	130	716	LFARLPEAIPWRQKKESSAQIRLEPPSRA QGETGFSWLGPDTTHSRFWWWLGL/CG EGWAGIPLCFFSPRKYNTPITRDFLGPPL TGQGNKKTNRSSQTLPIEKPLSL*KLL PSLRERE*LFIGLGVRAPSGSLISGLGA QACPQ/GLPCLCLYPCLRGPGQDFPNQPR POHPPSPQKPPSSFPHGYSVESLF
7835	15886	A	8455	1	578	GGRSVLPVDPRVRSHFPMTHGNTGLSAG LDASAQTTSHELTIPNDLIGCIIGRQGAKI NEIRQMSGAIKIANPVEGSTDRQVTTIG SAASISLAQYLINVLENAPSSQAASVTI PDHLSINLSQPSTPSSSFSTTTPLATAG TSDAPSSLPNPSSDRPLCLQSAWHETHPF PGSPPPRLLPATPPL
7836	15887	A	8456	2	875	IITLAGPTNAIFKAFAMIIDKLEEDISSM TNSTAASRPVTLRLVVPASQICGSLIGK GGCKIKEYTREYRGFRSKVAGDMLPNLT ERAVTIAGIPQSIIECVKQICVVMLETLSQ SPPKGV TIPYRKPVPSSPVILQGGQPYTI QGQYAIPOPDLT KLHLQAMQQSHFPM HGNTGIQWHLNPASPRGSKAYWAGLAD ASAQTTSSWNSPFPNGFDWAGIIGAFKG AKIWEIRQMSGAIKIANPVEGSTDRQ VTUTGSAASISPGVNIHNVRLSSETGGM GSS
7837	15888	A	8457	3	376	HSSGLGGGVMLVHDIRRNESHLDIFRE SAPGALREETLQRSWETKPGLLVGVP MVKGLHEAHQLYGRLPWSQVLAFAAA VAQDGFNVTHDLARALAEQLPPNMSE FRETFLPFGVRPLPGS
7838	15889	A	8458	1	1965	
7839	15890	A	8459	4	267	
7840	15891	A	846	33	382	
7841	15892	A	8460	10	464	TGPVAMGRVIRGQRKGAGSVFRAHVKH RKGAARLRAVDFAERHGYIKGIVKDIH DPGRGAPLAKVVFRDPYRFFKRTFLIA AEGIHGTGQFVYCGKKAQLNIGNVLPVGT MPEGTIVCAPVISKKVISSANRAVVGVA GCGRIRKRVK

						GGGRIDKPILKA
7842	15893	A	8461	5	807	TGPVAMGRVIRGQRKGAGSVFRAHVKH RKGAARLRAVDFAERHGYIKGIVKDIH DPGRGAPLAKVVFRDPYRFFKRTELFIA AEGIHGTGQFVYCGKKAQLNIGNVLPVGT MPEGTIVCCLGGEAWKTRGKLARASGN YATVISHNPETKKTRVKLPSGSKKVISS ANRAVVGVVAGGWPELTNP SLKAGRA YHKYKAK/RQRNCWP/RIRG/VAMNPVE HTFGGGQ/HPQHIASPTTIRRDAP/AGRKV GLIAARRTGRLRGTKTVQEKEN
7843	15894	A	8462	11	349	
7844	15895	A	8463	305	676	RSKSDSAADLPSRRARLSGTGEKASENK GDPVHL*ADGGFVPLEDSL CM*FPAWAS SPSAALSIGLTVQVAGLQGLPWAPWVVP LGSTGRRSSGELEESEAGYLSTSTDGLL GSFKEGCSSC
7845	15896	A	8464	352	784	
7846	15897	A	8465	3	381	
7847	15898	A	8466	1	233	
7848	15899	A	8467	3	356	
7849	15900	A	8468	2	374	
7850	15901	A	8469	2	482	KFQNALLVRYTKKVPQVSTPTLVEVSRN LGKVGSKCCKHPEAKRMPCAEDYLSVV LNQLCVLHEKTPVSDRVT KCCTESLVNR RPCFSALEVDETYVPKEFNAETFTFHVK HKPKATKEQLKAVMDDFAAFVEKCKKA DDKETCF AE EGKKLVAASQAAL
7851	15902	A	847	21	371	APSPDAMGHFTEEDKATITSLWGKVNVE DAGGETLGRLLVVYPWTQRFFDSFGNLS SASAIMGNPKVKA/HPENFKLLGNVLVT VLAHFGKEFTPEVQASWQKMTGVAS ALSSRYH
7852	15903	A	8470	2	435	
7853	15904	B	8471	73	384	MFLYEYARRHPDYSVVLRLAKTYETT LEKCCAAADPHECYAKVFDEFKLLVEEP QNLKQAWRVQIPECAISSLHQESTPSVN SNSCRGLKKPRKSGQQML*
7854	15905	C	8472	11	475	
7855	15906	A	8473	1	608	
7856	15907	A	8474	1	593	AKYICENQDSISSKLKECCEKPLLEKSHC IAEVENDEMPADLPSLAADFVESKDVCK NYAEAKDVFLGMFLYEYARRHPDYSVV LLRLAKTYETTLEKCCAAADPHECYAK VFDEFKPLVEEPQNLKQNCLEFEQLGEY KFQNALLVRYTKKVPQVSTPTLVEVSRN LGKVGSKCCKHPEAKRMPCAEDYLSRG PRTSRMFAKTMLRQRMSSWAC/CLYEY ARRHPDYSVVLRLAKTYETTLEKCCA AADPHECYAKVFDEFKPLVEEPQNLKQ NCELFEQLGEYKFQNALLVRYTKKVPQ VSTPTLVEVSRNLGKVGSKCCKHPEAKR MPCAEDYLSRGP

7857	15908	A	8475	1	1428	MKWVTFISLLFLFSSAYSRGVFRDRAHK SEVAHRFKDLGEENFKALVLIQFAQYLQ QCPFEDHVKL VNEVTEFAKTCVADES NCDKSLHTLFGDKLCTVATLRETYGEM ADCCAKQEPERNECFLQHKDDNPNLRL VRPEVDMCTAFHDNEETFLKKYLYEIA RRHPYFYAPELLFAKRYKAAFTECCQA ADKAACLLPKLDELDEGKASSAKQRL KCSLQKFGERAFAWAVARLSQRFPK AEFAEVSKLVTDLT KVHTECCHGDLLEC ADDRADLAKYICENQDSISSKLKECCEK P LLEKSHCIAE/HRNLGKVGSKCKHPEA KRMPCAEDYLSVVLNQLCVLHEKTPVS DRVTCKCTESLVNRRPCFSALEVDETYV PKEFNAETFTFHADICTLSEKERQIKKQT ALVELVKHKPKATKEQLKAVMDDFAAF VEKCKADDKETCFAEKGKLVAAASQA ALGL
7858	15909	A	8476	1	748	
7859	15910	A	8477	1	1515	
7860	15911	A	8478	1	2931	MKWVTFISLLFLFSSAYSRGVFRTPGLP ASSLPQSFLKCLEQVRKIQGDGAALQE KLCATYKLCHEPELVLLGHSLGIPWAPL SSCPSQALQLAGCLSQLHSGFLYQGLL QALEGISPELGPTLDLQLDVADFATTIW QQMEELGMAPALQPTQGAMPAFASAFQ RRAGGVLVASHLQSFLEVSYRVLRLHLA QPGGGGDAHKSEVAHRFKDLGEENFKA LVLIQFAQYLQCPFEDHVKL VNEVTEF AKTC
7861	15912	B	8479	1	6124	MKWVTFISLLFLFSSAYSRGVFRDRAHK SEVAHRFKDLGEENFKALVLIQFAQYLQ QCPFEDHVKL VNEVTEFAKTCVADES NCDKSLHTLFGDKLCTVATLRETYGEM ADCCAKQEPGRNECFLQHKDDNPNLPR LVRPEVDMCTAFHDNEETFLKKYLYEIA ARRHPYFYAPELLFAKRYKAAFTECCQ AADKAACLLPKLDELDEGKASSAKQRL LKCSLQKFGERAFAWAVARLSQRFP KAEFAEV
7862	15913	A	848	24	474	
7863	15914	A	8480	241	348	
7864	15915	A	8481	2	191	
7865	15916	A	8482	3	370	
7866	15917	A	8483	1	351	
7867	15918	A	8484	44	454	
7868	15919	A	8485	200	408	
7869	15920	A	8486	1	110	
7870	15921	A	8487	48	462	
7871	15922	A	8488	1	721	MHWGVGFASSRPCVVDLSWNQSIFFG WWAGSEEPFSFYGDIIAFPLQDYGGIMA GLGSDPWWKTLYL TGGALLAAAAAYLL HELLVIRKQEQEIDSKDAIHLHQFARNNG VPSLSPFCLKMETYLRLMADLPYQNYFGG KLSAQGKMPWIEYNHEKVSGTEFIIDFLE EKLGVNLNKNLGPHERAISRAVTKMVEE HFYALSWRWYHPVPTCLQKFLQFVRQ LMLFMRTSPSALPGH
7872	15923	A	8489	3	785	
7873	15924	A	849	24	415	
7874	15925	A	8490	5	302	
7875	15926	A	8491	1	2086	
7876	15927	A	8492	3	2011	
7877	15928	A	8493	305	505	

7878	15929	A	8494	3	1588	EEEDYDVYKSEFPTEADLEDFTEAAVDE DDEDEEEGEEVVEDRDYYYDTFKGDDY NEENPTEPGSDGTMSDKEITHDVKAVCS QEAMTGPCRAVMPRWYFDLSKGKCVRF IYGGCGGNRRNFESEDYCMVCKAMIP PTPLPTNDVDVYFETSADDNEHARFQKA KEQLEIRHRNRMDRVKKEWEEAELQAK NLPKAERQTLIQHFQAMVKALEKEAASE KQQLVETHLARVEAMLNDRRRMALEN YLAALQSDPPRPHRILQALRRYVRAENK DRLHTIRHYQHVLAVDPEKAAQMKISQ VMTHLHVIEERRNQSLSLLYKVPYVAQ ENIQEEIDELLQEQRADMDQFTASISETPV DVRVSSDESEIIPFHPFHPFALPENEG SGVGEQDGGGIGAEKVINSKNKVDEK HGPLNETLDVKEMIFNAERVGGLEEEERE SVGPLREDFSLSSALIGLLVIAVAIATV IVISLVMLRKRQYGTISHGIVE/VVDPML TPEERHLNKMQRNHGYENPTYKYLEQMQ I
7879	15930	B	8495	73	1845	MAATGTAAAAATGRLLLLLVGLTAPA LALAGYIEALAANAGTGFVAEPQIAMF CGKLNMHVNIQTGKWEPTGTGKSCFET KEEVLQYCQEMYPELQITNVMEANQRV SIDNWCRRDKKQCKSRFVTPFKCLVGEF VSDVLLVPEKCQFFHKERMEVCENHQB WHTVVKEACLQGMITYSYGMLLPCG VDQFHGTEYVCCPQTKIIGSVSKEEEED EEEEEEDEEEDYDVYKSEFPTEADLEDF TEAAVDEDEDEEEGEEVVEDRDYYYD TFKGDDYNEENPTEPGSDGTMSDKEITH DVKAVCSQEAMTGPCRAVMPRWYFDL SKGKCVRFIYGGCGGNRRNFESEDYCM AVCKAMIPPTPLPTNDVDVYFETSADDN EHARFQKAKEQLEIRHRNRMDRVKKEW EEAELQAKNLPKAERQTLIQHFQAMVK ALEKEAASEKQQLVETHLARVEAMLND RRRMALENYLAALQSDPPRPHRILQALR RYVRAENKDRLHTIRHYQHVLAVDPEK AAQMKSQVMTHLHVIEERRNQILSLLYK VPYVAQEIQEEIDELLQEQRADMDQFTA SISEHPCGRPGEL*
7880	15931	B	8496	55	274	MADANKAEVPGATGGDSPHLQPAEPPG EPRREHPAAEKQQPQHSSSSNGVKME NDESAKEEKSDLKEKSTGX*
7881	15932	A	8497	3	754	FLFEHPAEARKQQPQHSSSSNGVKME NDESAKEEKSDLKEKSTGSKKANRFHPY SKDKNSGTGEKKGPNRRNVFISNIPYDM KWQAIKDLMREKVGEVTVYVLFKDAEG KSRGCGVVEFKDEEFVKKALETMNKYD LSGRRVNIKEDPDGENARRALQRTGTSTF QGSHASDVGSGLVNLPPSILNNPNIPPEVI SNLQAGRLGSTIFVANLDFKVGWKKLKE VFSIAGTVKAGRYKEDKDGQSRGMGT
7882	15933	A	8498	2	346	
7883	15934	A	8499	1	414	AWHEETHKVDLGLPEKKKNKKVVKEPE TRYSVLNNDYFADVSPLRATSPSKSVA HGQAPEMPLVKKKKKKKKIVSAALGKE VKRSQSKLRLRNTSP*VMTLRPPQKRK*S PKRR*SSQSSRSQ*KGKRRRGKRG
7884	15935	A	85	2	526	RGGCDRDGPFSSPLAMASLTVKAYLL GKEDAVAREIRFSLCCSTEPEAQAEVAA GPGPCERLLIRVAALFPAVRPGGFQAHY RDEDGDLVAFSSDEELTMAMSYVKDDIF RIYIKETNECLA\DHRRPPDAHERA/PRNM VHLNEICDG*NGPVAGTLYMCSFCPYYY LCTPFNV

7885	15936	A	850	24	432	APSPDAMG/HSLWGKVNVEDAGGETLG RLLVVYPWTQRFDSFGNLSSASAIMGN PKVKAHGKKVLTSLGDAIKHLDDLKGTF AQLSELHCDKLHVDPENFKLLGNVHFG KEFTPEVQASWQKMTGVASALSSRYH
7886	15937	A	8500	1	1977	MEVDFKIRKVGQWTITLQEHVPSVLLFIE ETHPENKPTSTAVEESHISRDVMVNFQ CQLDWSKGYLEAYLTINSICSHRFLLD GSVTCHDETGSSRDARDTVGTGVRVND ESVEQLGLRRTMWLGICRGAAAMAVST VTAFAGRPRPGRSRNPRGWAGDSK WTS GSRRSWLSRGGGEISPTGMITKTHFVYL GLPEK KKKR VVKEPETRYSVLNDDY FADV SPLRATSPS*DV AHGQAPEMPLVK KKKKKKKG VSTLCEEHVETTLPARRT EKSPSLRKQVFGHLEFLRGKRKNKKSPL AMSHASGVKTSQDPRQGEETRVGKK\ SKKHKKEKKGPGPHSLPVQDPWFCEA REARDVGDTCVSGKKDEEQAALGQKRK RKSPREHNGKVKKKKKIHQEGDALPGH SKPSRSMESPRKSGSKKPKVKEAPEYIP ISDDPKASAKKKMKSKKKVEQPVIEPA LKRKKKKKRKESGVAGDPWKEVVPSE MDFAVGELRETDITDLEVLEKKGNMDE AHIDQVRRKALQEEIDRESGKTEASETR KWTGTQFGQWDTAGFENEDQKLFLRL MGGFKNLSPSFSRPASTIARPNMALGKK AADSLQQNLQRDYDRAMSWKYSRGAG LGFSTAPNKIFYIDRNASKSVKLED
7887	15938	A	8501	2	376	TAGFLLPQGLPCKYHLMYGSHLMPNVW RRTTTTREP KPLGDAEPNTRSLMWEVKRS SSGPWVFKSNIACHIPFRITSTSSAYD/W PFTHSF**FSGIIPPCPHGCHQFQSQDMVT FPLCQLPAHLH
7888	15939	A	8502	2	956	
7889	15940	A	851	323	737	
7890	15941	A	852	24	589	
7891	15942	A	853	100	684	
7892	15943	A	854	135	851	APSPDAMGHFTEEDKATITSLWCKVNV EDAGGETLGRLLVVYPWTQRFDSFGNL SSASAIMGNPKVKAYGKKVLTSLGDAI KHLDDLKGTFQAQA*SELHCDKLHVDP ENFKLLGKCAGDPFLAIPFSAKEFTPGG CRLPGQKDG*LGVGQCPGPPDTTEAQLP MNAELFKDMALFLQAITNNKSISAKRSN FKLLGNVLTVLAIHFGKEFTPEVQASW QKMTGVASALSSRYH
7893	15944	A	855	40	505	QPQTVSILHLTPEEKSAVTALWGKVNLD EVDVEALGRLLVVYPWTQRLLESFGNL STPDVAVMGNPKVKAHGKKVLGAFSDG LAHLNKLKGTATLSELHCDKLHVDPEN FRLGQRAWSV/LAGPITFGKEFTPPVAG LPIRKLVAQVANALAHK
7894	15945	A	856	41	536	APSPRRPWGHFTEEDKATITSLWGKVN VEDAGGETLGRLLVVYPWTQRFDSFG GNLSSASAIMGNPKVKAHGKKVLTSL GDAITKHLDDLKGTFQAQA*SELHCDKL HVDPENFKLLGNVLTVLAIIPFSAKEF TPEGCRASWAERWVTWSWPVPCSSRYH
7895	15946	A	857	241	435	
7896	15947	A	858	243	449	
7897	15948	C	859	275	397	MLCWKLGVHHYSGNNIELGTAMRENT YRVLHTGLFIDPG*
7898	15949	A	86	285	326	NLPKILGHTQKRLQSTRSWKRMMLSLIN LQHIIYNPVIPIFVGITPDHLDVFS*IVRRGP VSSDANYIQYDL*NPNKSLSV
7899	15950	A	860	2	424	



7900	15951	A	861	73	608	SVMTPVAPTLKAASKSDSSGPHRLREN PWCLSPADKTNVKAAGWKVGAHAGEY GAEAL\ERMFLSFPTTKTYFPHDLSHGVS AQV*GATGKKVADAL\TNAVAHVGR LPNALSGPEATLHAHKLRRGGPGSTFKLL \SHLPCLGEPWAAHLPGRVSPGLGGCKAS LGTNFLGFLKQPC
7901	15952	A	862	7	330	
7902	15953	A	863	2	379	
7903	15954	A	864	3	722	HERGSVSCFNSGWTDHIRGHLPQPTAL RFPLRLQPPGSSRPSPASGTCQHQLWL APSCQPTMSSQIRQNYSTDVEAAVNSLV NLYLQASYTYLSLGFYFDRDDVALEGV HFFRELAEEKREGYERLLARMQTRGGR ALFQDIKKPAEDEWVKTPDAMKAAMAL EKKLNLQALLDLHALGSARTDPHLCDFLE THFLDEEVKLIKMGDHLTNLHRLGGPE AGLGEYLFERLTLKHD
7904	15955	A	865	40	264	
7905	15956	A	866	3	1231	
7906	15957	A	867	3	496	
7907	15958	A	868	1121	1442	
7908	15959	A	869	2380	2714	EETEGQARWLTPVIPTLWEAEAGGSPEV GSSRPA*PPLSAFLYPAFFLRSARFL
7909	15960	A	87	133	392	LITIYYIPENCQPGQHSETSSL/KKKKLA GCGGTHL*SQLLGRLRREDYLSPPGQICS EP*SYHCTPAWVTGQDPASKKKKKKKK R
7910	15961	A	870	3260	3533	
7911	15962	A	871	6330	6802	RSKGRAKIKSRRAGQVQWLMFVIPALW EAKAGGSPEARSL*PAWPIW*NPALHSSL /V**SKALSQKQKKQKNGHDGQHDETV SLLKIQKSAG AHL*SQLLREAEAGELLE RRQTLQ*AEILPLHSLGLGDKSKTPSQKKK KKRSQGVGVREPQGP
7912	15963	A	872	1	500	
7913	15964	A	873	63	375	
7914	15965	A	874	27	374	
7915	15966	A	875	1	801	
7916	15967	A	876	1286	1388	
7917	15968	A	877	1	1056	
7918	15969	A	878	651	1467	
7919	15970	A	879	3	414	
7920	15971	A	88	2	359	EVLRMAGTGLVAVEVVVDALPDFEEGY EGPGGREAAAALVEDETRRYRPTMNYL SYLTSPDYSAFETDILNNDSERLAARQPA I*LLTMKLYLSSPSCGHYFVLLHVYNC LSLYFPSP
7921	15972	A	880	164	412	
7922	15973	A	881	29	489	
7923	15974	A	882	44	847	IKENSFIWIRASTITYLKGETIGTEPEGK EGECAGTGLVNPRFDFPSKIVSFPKIPV*T SLHITPLAIVCFQNIWSLHGKGQRGKGV QNINKRETKNKNITLFPREPQNQPIFF* TTQGHVEVKSLSVPL*ITGRKAISTQSL* QEFSTLEASEHAEDG/ALLRVPLPSWARA PSGVGTVKSRSFHVPRDHQPTTHWWP WWSMAGRQRPSTLSHFLSWMTSCLGP SHFRRELAFWKPTFPIHHRTRQSAHILVP LVFKGHFQOTL
7924	15975	A	883	40	431	
7925	15976	A	884	122	341	
7926	15977	A	885	23	419	

7927	15978	A	886	1	598	LARNPGSTHASGGILLGRQCWVLFMAP KKAKKRAGGANSNVFSMFQEQIQEFK EAFITMDQNRDGFIDKNDLRDTFACPW RKLNVKNEEIDEMIKKEAPGPINFVFLT MFWGRNLKGADPEGKPFNLNRISKVFDPE GKGVAEGLDYVREMLNNAARRGFPRKE VDQMFAAFPPDVTGNLDYKNLVHIITH GEEKD
7928	15979	A	887	174	452	
7929	15980	C	888	60	245	
7930	15981	A	889	1878	2295	SFSPA WPSRWCASSSWCTDCLVPSTCAA LQHPVVFLDKGNHFLIFFYFFFFVILYTSS SHEVED*PCVMFSKIKWYLLE/VRYILVV AYRLSFCKERKKTIKLCQHLLCLAARTW LPCLSLPPLSFSLCMDFFEKK
7931	15982	A	89	69	342	VGNMSGTNLDGNDEFDEQLRMLELYGD GKDGDTLTDAGGEPDSLGOYSTDTNPT WDLDI*AWFFMISEYFLFTYLVQFMAFL LYCGFMFL
7932	15983	A	890	3218	3469	
7933	15984	A	891	618	1236	
7934	15985	A	892	12	138	
7935	15986	A	893	1	1002	
7936	15987	A	894	66	293	RLFRFFCPTGCSLDVVL SLSF*GCGFL*S LHTGFMPSPEFWPGDSL SVQIVTNFSWR FSSAVAFSSASGSFPQGS
7937	15988	A	895	2202	2335	
7938	15989	A	896	343	906	
7939	15990	A	897	1455	1604	
7940	15991	A	898	370	807	
7941	15992	A	899	1	1548	
7942	15993	A	9	1130	1377	ASHLRSGVRDQPEQHGETPTLALKIQKSP GCGGRHL*SQLPGRRLQENHLNLGGGG CGELRSHHCIPAWVTETLTKKKKKKRR
7943	15994	A	90	144	2205	DRRERCHPFKRALMP/LRPAEPRPAFPIH HPLLQDANEAPG/CWAEAVQGCPT/AE DPPCVSRAAPGGSVPPFC/PGRL*GWGG PRGKGDPEGLADSGPPCELRFEESRPPR VVGESPAEKLAYPPGPLCFF*PFSEF/PE L*TKSPS*EMTNHMLHSGGGGSWPGSPT SPGPPPGSLPRAAALPPKTPGQTRAPAG AGCPHADLAMSPGPTGSPPVAPTSVA DCSSQNV*HPRVPEPTQAATPVQFPKNVI TSPGCQSPPKQ/APVPVPRMYN/MPRVT EPAQAATPESLGHVPELRSTQTVATASP GHLTPMKGTLGSAREIPEVGTGPPWCPV PPPSPLPLCPAPRGSAAGGLTLPLRASQTS GSTFLLISFPFCKLTSPFPGLGVQGTAPAG RSVCTVVQGVVSEGGTSVGQLLHLPVP LCPPLSKQVMAPIAGL/PIQCSGPPVQW GDPRPTPP*CIQPGQVYCCD/VLPALLCR FPGAAQPRTPHEWACPALAECLPCALRQ VPRAGQPG*TMCGAGTGPGCWKGGQK EAGGRCEKLPPLNTTALPAPAGPCSQ PLSHGWPGLPSPH*DSRQGGPDP/ASPS QPWLRKPPNPTMGLRKPRK*LLPASPKR LRKPKAASLPVRHPKASLGCS*EGLIWA LP*GWPCRWGPLGALGGTWQPPRHPGP VLISRA*GLQPQPLTK
7944	15995	A	900	3	127	VLCQFSKGMPLVFAQSV*YWLWVRYVP SIPSLLRVFSMKGC

7945	15996	B	901	1	1926	MFSDSLTPMHKERVITLLKREGHVVGFM GDGINAPALRAADIGISVDGAVDIARE AADIILLEKSLMVLEEGVIEGRRTFANML KYIKMTASSNFGNVFSVLVASAFLPFLP MLPLHLLIQNLLYDVSQVAIPFDNVDDDE QIQKPQRWNPADLGRFMIFFGPISSIFDIL TFCLMWWWVFHANTPETQTLFQSGWVWV GLLSQTLIVHMIRTRRVFFIQSCASWPLM IMTVIVMIVGIALPFSPLASYLQALPLS YFPWLVAIAGLATNSDRFDLNLHVFRQ TGNFNARTCREGGVVFGEFGFASGFDDR FYVIQRLTCLCSDVCRYFARFRIYRDLTG GDDHIAQINXLYVRPIAAGPAPGTFRWL HSRRAMLITRADMEDRERFLNARDTLR ALLDNNIVPVINENDAVATAEIKVGDND NLSALAAIAGADKLLLLTDQKGLYTAD PRSNPQAEIKDVYGIDDALRAIAGDSVS GLGTGGMSTKLQAADVACRAGIDTIIAA GSKPGVIGDVMEGISVGTLFHAQATPLE NRKRWIFGAPPAGEITVDEGATAAILERG SSLLPKGIKSVTGNFSRGEVIRICNLEGRD IAHGVSRYNSDALRRIAGHHSQEIDAILG YEYGPVAVTMHMYR*
7946	15997	A	902	1	1602	
7947	15998	A	903	1	972	
7948	15999	A	904	280	358	
7949	16000	A	905	141	152	QCPPQPRPPGRCPTQSGHTGCSTGG*GL NPLYYNLCDRSGAWGIVLEAVAGAGIVT TFVLTHLVASLPFVQDTKKRSLGTQLR GRCHHTAGTMGSC
7950	16001	A	906	177	247	
7951	16002	A	907	574	737	
7952	16003	A	908	221	576	GVGGDTHDTHPNTGREGGPPSRGAHVA GPARGRRSLESPLPGARSSGSPNPASP SPPLTQSH*TGPKRPESSCRLSRGVAAW WLWAEYIVFKPAGSSWHCPSPWLLAVA RGRMMS
7953	16004	A	909	1	157	TKTWTLKKHFVGYPTNSDFELKTAELPP LKN/GRVAAKRLKEGDTMMGQVAK
7954	16005	A	91	122	874	SPLLGGRLRQKIFFNWEAGGSIKPKLTSP PARQGQGGPFSSSPSSSPES*LFPALRT PSRQGGSAIPASGLSTPACVPSGSTRNL FHAPHVGRVSLLPAS*KAAGPSKKGPG QVNPA*FRKPGVGI*RSVGPRQLPLE*LH ARKNRAGPVPLPGLGKEGPSLQGPKRTO LASLLMEGPPHTHTIHDGTTAQPELWPC RGPQMOSWGSQPEHTFGPRQPHPPHPS RHRSDSESSLLQASAHGKA
7955	16006	A	910	3	484	VRLREDDRRGPSLGTCHKSDPGRPAAQS QPPSPGSGTFGLLSFRMVRTKTWTLKKH FVGYPNTSDFELKTAELPPLKNGEVLE ALFLTVDPYMRVVESKNVALPKGTIVLA SPGWTHSISDGKDLEKLLTEWPDITPLS LALATVGMPLTAYFGLLE
7956	16007	A	911	1	1147	MLLCQKAPSLKTTYNHPPAADSAGTAL NLETTVKQTRTQLEYNNVGTDLSPPEK SFNYPLLSSSGDQFEIQLNQQLWSLIPNN DVRRLVSHVIRTLKTDCTETHLQLACAK LISRTGLLMKLLSEQQELRTVSMATAWKP RMNRKSRMRQSHFASHAGRWVHNH STLQOSPPLQMAELSEARRRSFRMVRT KTWTLKKHFVGYPTNSDFELKTAELPPL KNGGLEFLIAYGMLYFVEVLLEALFLT DPYMRVAAKRLKEGDTMMGQVAKV VESKNVALPKGTIVLASPGWTHSISDG KDLEKLLTEWPDITPLSLALGTVMGMPGL TAYFGLLEICGVKGETVMVNAAGAV GSVVGQIAKLKCKVVGAVGSDEK

7957	16008	A	912	214	540	
7958	16009	A	913	495	684	
7959	16010	A	914	1	1911	
7960	16011	A	915	3	1381	KTPFVGYQHQRPKVDKTTKMGRNQSRK AENSKNQSTSSPPKDRSSLPATEQSWTE NDFDELTEVGFRRSAITNFSELKEHVLTR RKEAKNLEKRLDEWLTRINSVEKTLNDL MELKTMAQELRDARTSFNS*FNQVEKRI SVIEDQIDEIKQDDKAAETCNWRWVSES LRQLRASVDAFHARASHYNAGECLHQL AALNSRLNCAQEMARRDSIGEVPVPW RTVVGSGIAGEAKLDHLRLVSLIGEVN KENSPAATRWLFSFQAGALAGGQIVLQA AKPNAHGQPVVATRNLNLPAGIVAVLK QRPRLVAAAQAFYLRDPIDLRACRVFK TFLPETRIMTSYYAIEWSLWTLVDVLHA ENSESAHMSHNSYDPPSDVARHLTHLPM SPIPDYIARFRYRHSRVRLTARKLSPAF MRCSSIEQRYSTMLERGFNGGYCRSTTV RVVTEATRMLSF
7961	16012	A	916	1	1191	
7962	16013	A	917	1	227	
7963	16014	A	918	1	392	
7964	16015	A	919	157	388	
7965	16016	A	92	27	319	IINTSISLWFLGLSSIIHHYQERFL*FN*FG SYMVFIEIFFGISSAFFVC*WPK/Y/LLYFR YCRCLLILLLSIFEF/DLCYLVL*IFMFFL FFYMFLCV
7966	16017	A	920	451	593	
7967	16018	A	921	467	1038	
7968	16019	A	922	233	345	
7969	16020	A	923	1	1386	
7970	16021	A	924	1	1254	
7971	16022	A	925	36	695	
7972	16023	B	926	52	554	MGKEKTHINIVVIGHVDGSGKSTTTGHLIY KCGGIDKRTIEKFEKEAAEMGKGSFKYA WVLDKLLKAERERGITIDISLWKFETSKY YVTIIDAPGHRDFIKNMILNHPGQISAGY APVLDCHTAHACKFAELKEKIDRRSGK KLEDGPKFLKSGDAAIVDMVPGKPI*
7973	16024	A	927	63	1545	PLKAKMGKEKTHINIVVIGHVDVTKGST TTGHLIYKCGGIDKRTIEKFEKEAAEM GKGSFKYA*VLDKLLKAERERGITIDISL WKFETSKYYVD*SLIAPGHRDFYSKT* FTGTISRLDLVWGAPFLGG/CLP*LFAAG VWWNLKAGISQEWGRTREHALLGLHTG VWKQTKLFGVNKNWIST*GHPTAQKKIL KEIVKGKSALTIRKIGYNPDTSSILCPISG WNGDNMLEPSAANMPWFQGDGKVTIRK DGNASGTTLEALDCILPPTPTDKPLGL PLQDVYKIGGIGTVPVGRVETGVLPKGM VVTFGPVNVTTEVKSVMHHEALGEAL PGDNVGFNVKNVSVKDVRRGNVAGDS KNDPPMEAGFPAQVILNHPGQISAGY APVLDCHTAHACKFAELKEKIDRRSGK KLEDGPKFLKSGDAAIVDMVPGKPMCV ESFSDYPPLGCFVRDMRQTVAVGVVIA VDKKAAGAGKVTSAQKAQKAK
7974	16025	A	928	2	246	
7975	16026	A	929	318	420	
7976	16027	A	93	264	664	IRLAFCGIFQAFSICNSNIWLLPEIPLLG IYP*E*NTKCTCTQMFTAALFIIS*KVEISQ MPIINEKINKLWYIHMTCHTKNKVLIRD T*MNLENIKLNERGQTKKKKKAIYCLSL FM*YVQNRQIHTDEK
7977	16028	A	930	205	400	

7978	16029	A	931	234	425	ICKWILPCGLAGSYKIAKWVSGFTLLLT HVMGAAWV*LSLFGYTILF*FPKMSSFL TMKKDIF
7979	16030	A	932	405	862	
7980	16031	A	933	2	412	
7981	16032	A	934	110	431	
7982	16033	B	935	754	1544	MREIVHIQAGQCGNQIGAKFWEPWKASS IELSQCRNSPSKVFRSKEHDGLPVTPTTR R*
7983	16034	A	936	1	451	
7984	16035	A	937	1	258	
7985	16036	A	938	3	1906	
7986	16037	A	939	1	585	ECLCVSTAVRIRHEKTMTELLRGGSE FKDMRVPSALVTLHMLLCSIPLSGRIDS DEQKIQNDIIDILLTFTQGVNEKLTISEET LANNTWSLMLKEVLSSILKVPEGFFSGLI LSELPLPLPMQTTQVSLPYNMHLINDC SNTF*KASDSVKKQKPPSPFLPKRHKITG *GGDKTETSWSLRKYGGKNFK
7987	16038	A	94	2	605	SHGTPGRPTRPVEFFSGGSAGSFPWFPK KAKKRAGGADSNVFSMFEQTQMQUEFK EAFSIMDQNRDGFIDKNDLRDTFAALGE VMNVKNEEIDEMKEAPGPLNFTVFLTN VWGENLREADPEETILNAFKVFDPRP KGCMKA/DYVVGKMLTHAGRFRFSKE EV\QMFAGLPPLT*LGNLDYKNLVHIIT HGEEKD
7988	16039	A	940	625	2115	
7989	16040	A	941	180	359	GSLQRDRWPTSSWRTGRQGSSLLRPRWI SFLAQLWRV*RIPAGTFVIRIEDGNGRRA FI
7990	16041	A	942	1286	2188	
7991	16042	A	943	1	2537	
7992	16043	A	944	2	437	
7993	16044	A	945	298	581	GARAEARAGSGQGAGLVSSPVRWRG WSDKGAERPGLSPLREVSAGPSG/H AARGQQGRPRFPFPPGPRPPRRCPCTRA RPGGAAGGGPCL
7994	16045	A	946	377	639	
7995	16046	A	947	1279	2253	
7996	16047	A	948	268	369	
7997	16048	A	949	15	440	
7998	16049	A	95	1	1254	
7999	16050	A	950	118	375	VAVVQIIFLPVFIAEKYKDLVPDNSKTAD NATKNAEPLINLDVNNPDFKAGVMALA NLLQIQRHDDYLVMLKVAIRILVQERLTQ D
8000	16051	A	951	1	969	AATVLTITIGEAPSRSDSAPARPLAASPV PAPPAPPRFFSPGRPGDQSEKRWTFMR RKLTSLDYHNPAGFNCKDETEFRNFIV WLEDQKIRHYKIEDRGWNLNHSDDWPK VFEKYFKRC*TCPFKIQDRQESYLTGFFG LAVRLEYGDNAEKYKDLVPDNSKTA*Q LQLKIAEPLINLDVNNPDFKAGVVGFG* TWLQIQRH\GLPGQMLKANSQFWVQE RLDHQGCQFA*GQIKQKRGLPVA\LDKHI LGFD\TGDAVLNEAAQILRLHIEELRELQ TKINEAIVAVQAIADPKTDHRLGKSLED EHLRTSASHLL
8001	16052	A	952	1258	1429	
8002	16053	A	953	189	403	

8003	16054	A	954	51	1702	GLPRCASVQPVCEYQRRWKRWLWDIT WEKWKQMDTVQKSIYRNILAEKYRNLVL LDGKLAAGAKTSRVEQQDISKED*SQRL EMEELAKRKSVPEEIWKSRGQFKNQQLN KENNLGQEIATCTKIPTKRKDIESNEF/RE KFYCKINTCC/MNR*ILWKRIVINMVHVE RCSNKTQI*LYKESMMEKKKPKYSECG RTFRGHITLVQHQTICGERPCKCTEGRK GFNQSSHLRNNQKRLTSGEKPYPKSECG KAFSYCLVLNQHQRIHSGEKPYEGETECG KTFIQSSYLTQHQR/TSHTGEKPYTCLEC GRLFSQNTHTLTHQRIHTGEKPYECNEC GRSFSQTAHLTQHQRMYTGEKLYECNE CEKAFHDHSAHQHIVHTAEKPYDIMIT GKTFSYCSDLIQHQRMTGEKPYKCNEC GNAFSDCSSLIQHQRTHTGEEPYECKQC GKAFSRSTYLTQHQRSHAGEKQYKCN CEKTFSLSSFLTQHMRVQTGEKPYKYNE YGKAFSDCSGHFQRTHTGEKPECECND GKPFSCSALIQHKRIHTRKKP
8004	16055	A	955	2	270	REEKEWPPHTQPWYPEGCFKDGQHYEE GSVIKENCNS*WTAQNYSQFWGMTLED GFKFRLGTLPPSPMLLSMNEMTVSVPSD SRMCMYL
8005	16056	A	956	1	999	
8006	16057	A	957	1	1518	VHCSEFPGRPPRPRTRGRKVEAIPVFOR MWTGYKILIFSYLETTEIWMEKQYLSQRE VDLEAYFTRNHTFLQTHFKRAIFQIGQ YCRNFGCCEDRDDGCVTEFYAANALCY CDKFCDRENSDCPDYKSFCEKEWPP HTQPWYPEGCFKDGQHYEEGSVIKENC NSCTCSGQWKCQSHVCLVPELIEQV NKGDYGWTAQNYSQFWGMTLEDGFKF RLGTLPPSLMLLSMNEMTASLPATTDLP EFFVASYKWPWTHGPLDQKNCAASW AFSTASVAADRIAQSKGRYTANLSPQNL ISCCAENRHCNSGSIDRAWWYLRKRG LVSHACYPLFKDQATNNGCAMASRSD GRGKRHATKPCPNVVEKSNRIYQCSPPY RVSSNETEIMKEIMQNGPVQAIMQVHED FFHYKTGIYRHVTSTNKESEKYRKLQTH AVKLTGWGTLRGAQGOKEKFWIAANS WGKSWGNGYFRILRGVNESDIEKLJIAA WGQLTSSDEP
8007	16058	A	958	316	411	
8008	16059	A	959	314	390	
8009	16060	B	96	52	554	MGKEKTHINIVVIGHVDSGKSTTTGHLIY KCGGIDKRTIEKFEKEAAEMGKGSFKYA WVLDKLAERERGITIDISLWKFETSKY YVTIIDAPGHRDFIKNMILNHPGQISAGY APVLDCHTAHIAKFAELKEKIDRRSGK KLEDGPKFLKSGDAAIVDMVPGKPI*
8010	16061	A	960	112	1154	SCGLGHRKTFVSLPARNETQPKACRE QNMEGDFSVCRCNC*RHVVSANFTLHEA YCLRFLVLCPECEEPVPKETMEEHCKLE HQQVIGCTMCQQIMHKSSLEFHKANECQ ERPVECKFCCLDMQLSKLEHESYCGSR TELCQCGCGFIMHRMLAQRRDVCSEQ AQLGKGERISAPEREIYCHYCNQMIPEN KYFHHMGKCCPDSEFKHFPVGNPEILP SSLPSQAAENQTSTMEKDVRPKTRSINRF PLHSESSSKAPRSKNKTLDPMLMSEPKP RTSSPRGDKAAYDILRRCSQCIGILLPLIL NQHQEKCRWLASSKRKTSEKFLDLEK ERYYYKFKRFHF
8011	16062	A	961	103	538	
8012	16063	A	962	1	405	
8013	16064	C	963	334	471	

8014	16065	A	964	1	1137	
8015	16066	A	965	1	451	GDRPFRV*DPRAGQAATFWTDPSLS*SL LLGVMFPAAPSPRTPGTGPRRGPLAGLG PGSTPRITASRMGLPLGSAVSSPVLFSPGG RRSSLISRGTPTRMLPHHSITESVNYDAK TIGSSLPVKVMEALTLAEVDDQLTININE GGWACLV
8016	16067	A	966	301	1867	
8017	16068	A	967	57	383	GWLAHTANERPVRCPFVWLEGFLENIRA PTLNF*QIQQSLAIFVEPIKTILLPFCFFRIF STRVRICTYSSHSFPGGAGLLHFCSSSL VRFKISFGDTVAVAPVPDF
8018	16069	A	968	507	904	GKRAGECWRRSLRPRGPRGETRAASPSS ARPSLALASAPRPSKSGPRRQGPRLW PRGLKGQVCARGPGRGGPGGVGRRSA SARAPRVPGDQPPPPAPSS*ED/WT*EIG RLSSHAPLAVLHTRSALLNS
8019	16070	A	969	379	858	
8020	16071	A	97	1	1299	
8021	16072	A	970	259	483	
8022	16073	A	971	175	588	
8023	16074	A	972	1	383	
8024	16075	A	973	79	445	
8025	16076	A	974	1163	1401	
8026	16077	A	975	80	406	
8027	16078	C	976	70	240	MITGTSQADCAVLIVAAGVGEFXAGISK NGQTRRDMRKXLRKSALTIRKLATTPT Q*
8028	16079	B	977	68	490	MGKEKTHINIVVIGHVDSGKSTTTGHLIY KCGGIDKRTIEKFEKEAAEMGKGSFKYA WVLDKLKAERERGITIDISLWKFETSKY YVTIIDAPGHRDFIKNMITGTSQADCAVL IVAAGVGEFEAGISKNGQTREHALLA*
8029	16080	A	978	261	406	
8030	16081	A	979	1	678	
8031	16082	A	98	36	697	KLPLKAKMGKEKTHINIVVIGHVDSGKS TTTGHLIYKCGGIDKRTIEKFEKEAAEMG KGSFKYAWVLDKLKAERERGITIDISLW KFETSKYYVTIIDAPGHRDFIKNMITGTS QADCAVLIVAAGVGEFEAGISKNGQTRE HALLAYTLGVKQLIVGVNKM DSTGAIL TGDFPSLEPRHVSTWLQHVVTIPTNRWH KCYCVGVVANFLNVSADFLNNF
8032	16083	A	980	181	340	
8033	16084	A	981	1	375	

8034	16085	A	982	1	2583	MVNFTVDQIRAIMDKKANIRNMSVIAHV DHGKSTLTDSLVCAGIASARAGETRFT DTRKDEQERCIPIKVNAISLFYELASEND LNFIQQSKDGAGFLINLIDSPGWHVDFSSE VTAALRVMTMGALVVVDCVSGVCVQTET VLRQAIARIKPVLMNMKMDRALLELQ LEPEELYQTFQRIVENNVNIIISTYGEGESG PMGNIMIDPVLGTGVGFGSLHGWAFTLK QFAEMYVAKFAAKGEGQLGPAERAKK VEDMMKKLWGDYFDPANGKFSKPAT SPEGKKLPRTFCQLILDPIFKVFDAIMNF KKEETAKLIEKLDIKLDSKDEKPKPL KAVMRRWLPAGDALLQMITIHLPSPVTA QKYRCELLYEGPPDDEAAMGIKSCDPKG PLMMYISKMVPTSDKGRFYAFGRVFSGL VSTGLKVRIMGPNYTPGKKEDLYLKPIQ RTILMMGRYVEPIEDVPCGNIVGLVGVD QFLVKTGTITTFEHAHNMRVMKFSVSPV VRVAVEAKNPADLPKLVEGLKRLAKSD PMVQCIIEESGEHIIAGAGELHLEICKDL EEDHACIPIKSDPVVSYRETVSEESNVL CLSKSPNKHNLRYMKARPPDGLAEDID KGEVSARQELKQRARYLAEKYEWDVAE ARKIWCFGPDGTGNILDTITKGVQYLN EIKDSVVAGFQWATKEGALCEENMRGV RFDVHDVTLHADAIHRGGGQIPTARRC LYASVLTAQPRLMPIYLVEIQCPQVVG GIYGVNLNRKRGHVFEESQVAGTPMFVV KAYLPVNESFGFTADLRSTGGQAFQPC VFDHWQILPGDPFDNSSRPSQVVAETRK RKGLKEGIPALDNFLDKL
8035	16086	A	983	1326	1498	
8036	16087	A	984	60	966	RRRNSDGNACQPATHLLLSARFITGHGQ KLKSELKKTQVIMLNIQKVRIPTRDGY NEKDILSTGKNVEKLELSNAGYPSNIEK KEYQEQSVLSCCSEKRDANPKSVVCSFF MQEQCTKGEKRFIPGTLSDVDRHLRYFG ILPTVSNAAVVKEVPTVSNAAVVTEAPT GSNAAVVTEAPTGSNAARVMEVPTGSN AAVVTEVPTGSNAAVVTEAPTGSNAAV VKEAPTGSNAARVMEVPTGSNAAVVKE APTGSNAARVMEVPTGSNAAVVKEVPT GSNAAVVKEVPTGVTLRWSRKRPRE
8037	16088	A	985	1393	1625	
8038	16089	A	986	358	475	
8039	16090	A	987	232	329	
8040	16091	A	988	127	461	
8041	16092	A	989	562	897	
8042	16093	A	99	62	1548	PLKAKMGKEKTHINIVVIGHVDSGKST TTVGHLYKCAGGNDKRTIEKFEKEAAEM GKGSFKYAWVLDKLAERERGITIDISL WKFETSKYYVD*SLIAPGHQETFIQKH DLQGTSQGLAWFGGPPFWGGSPLIVAA GVGEF*SLVSPKNGADPTKHALLGLHT GVWKQTKLFGVNKNWIST*/EPPYSPEED IEGNC*GKVSTYIKKIGYNPDTSILCPIS GWNGDNMLEPSPNMPWFQGDGKVTR KDGNASGTTLEALDCILPPTPTDKPLG LPLQDVYKIGGIGTVPVGRVETGVLPKPG MVVTFGPVNVTEVKSVMHHEALGEA LPGDNVGFNVKNVSVKDVRRGNVAGDS KNDPPMEAAGFPAQVILLNHPGQISAGY APVLDCHTAHIACKFAELKEKIDRRSGK KLEDGPKFLKSGDAAIVDMVPGKPMCV ESFSDYPPLGCFVRDMRQTVAVGVVKA VDKKAAGAGKVTKSAQKAQKAK
8043	16094	A	991	7	494	
8044	16095	A	992	206	357	



8045	16096	A	993	1	101	
8046	16097	A	994	256	407	
8047	16098	A	995	254	432	
8048	16099	A	996	249	400	
8049	16100	A	997	37	465	
8050	16101	C	998	127	216	MRLRKQAEKNVEKKIDKYTEVLKTHGL LV*
8051	16102	A	999	1	1258	LFLPLLEPGERRGLLYRSRPGGAVALILL AAAVSICAVSQHAPPWTEDCRKSTYPPS RPTYRGAVPWDTIQCLTYHPYKRWHEL MLDKAPV/LQKVIVNSLKNMINTFVPSG KIMQVVDEKL\PGLLGNFP\GPFEEEMKG IGRCLLDIPLGEIISFNIFYELFTICTSIVA EDKKGHLIHGRNMDFGVFLVWNINND TWVITEQLKPLTVNLDFQRNNKTVFKAS SFAGYVGMLTGFKPGLFSLTLNERFSIN GGYLGILEWILGKKDAMWIGFLTRTVLE NSTSYEEAKNLLTKKILAPAYFILGGNQ SGEGCVITRDRKESLDVYELDAKQGRW YVVQTNVDRWKHPFFLDDRRTPAKMCL NRTSQENISFETMYDVLSTKPVLNKLTV YTTLIDVTKGQFETYLRDCPDPCIGW

## WHAT IS CLAIMED IS:

1. An isolated polynucleotide comprising a nucleotide sequence selected from the group consisting of SEQ ID NO: 1-8051, a mature protein coding portion of SEQ ID NO: 1-8051, an active domain of SEQ ID NO: 1-8051, and complementary sequences thereof.
2. An isolated polynucleotide encoding a polypeptide with biological activity, wherein said polynucleotide hybridizes to the polynucleotide of claim 1 under stringent hybridization conditions.
3. An isolated polynucleotide encoding a polypeptide with biological activity, wherein said polynucleotide has greater than about 90% sequence identity with the polynucleotide of claim 1.
4. The polynucleotide of claim 1 wherein said polynucleotide is DNA.
5. An isolated polynucleotide of claim 1 wherein said polynucleotide comprises the complementary sequences.
6. A vector comprising the polynucleotide of claim 1.
7. An expression vector comprising the polynucleotide of claim 1.
8. A host cell genetically engineered to comprise the polynucleotide of claim 1.
9. A host cell genetically engineered to comprise the polynucleotide of claim 1 operatively associated with a regulatory sequence that modulates expression of the polynucleotide in the host cell.
10. An isolated polypeptide, wherein the polypeptide is selected from the group consisting of:
  - (a) a polypeptide encoded by any one of the polynucleotides of claim 1; and
  - (b) a polypeptide encoded by a polynucleotide hybridizing under stringent conditions with any one of SEQ ID NO: 1-8051.
11. A composition comprising the polypeptide of claim 10 and a carrier.
12. An antibody directed against the polypeptide of claim 10.

13. A method for detecting the polynucleotide of claim 1 in a sample, comprising:
- a) contacting the sample with a compound that binds to and forms a complex with the polynucleotide of claim 1 for a period sufficient to form the complex; and
  - b) detecting the complex, so that if a complex is detected, the polynucleotide of claim 1 is detected.
14. A method for detecting the polynucleotide of claim 1 in a sample, comprising:
- a) contacting the sample under stringent hybridization conditions with nucleic acid primers that anneal to the polynucleotide of claim 1 under such conditions;
  - b) amplifying a product comprising at least a portion of the polynucleotide of claim 1; and
  - c) detecting said product and thereby the polynucleotide of claim 1 in the sample.
15. The method of claim 14, wherein the polynucleotide is an RNA molecule and the method further comprises reverse transcribing an annealed RNA molecule into a cDNA polynucleotide.
16. A method for detecting the polypeptide of claim 10 in a sample, comprising:
- a) contacting the sample with a compound that binds to and forms a complex with the polypeptide under conditions and for a period sufficient to form the complex; and
  - b) detecting formation of the complex, so that if a complex formation is detected, the polypeptide of claim 10 is detected.
17. A method for identifying a compound that binds to the polypeptide of claim 10, comprising:
- a) contacting the compound with the polypeptide of claim 10 under conditions sufficient to form a polypeptide/compound complex; and
  - b) detecting the complex, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 10 is identified.
18. A method for identifying a compound that binds to the polypeptide of claim 10, comprising:

a) contacting the compound with the polypeptide of claim 10, in a cell, under conditions sufficient to form a polypeptide/compound complex, wherein the complex drives expression of a reporter gene sequence in the cell; and

b) detecting the complex by detecting reporter gene sequence expression, so that if the polypeptide/compound complex is detected, a compound that binds to the polypeptide of claim 10 is identified.

19. A method of producing the polypeptide of claim 10, comprising,

a) culturing a host cell comprising a polynucleotide sequence selected from the group consisting of a polynucleotide sequence of SEQ ID NO: 1-8051, a mature protein coding portion of SEQ ID NO: 1-8051, an active domain of SEQ ID NO: 1-8051, complementary sequences thereof and a polynucleotide sequence hybridizing under stringent conditions to SEQ ID NO: 1-8051, under conditions sufficient to express the polypeptide in said cell; and

b) isolating the polypeptide from the cell culture or cells of step (a).

20. An isolated polypeptide comprising an amino acid sequence selected from the group consisting of SEQ ID NO: 8052-16102, the mature protein portion thereof, or the active domain thereof.

21. The polypeptide of claim 20 wherein the polypeptide is provided on a polypeptide array.

22. A collection of polynucleotides, wherein the collection comprises the sequence information of at least one of SEQ ID NO: 1-8051.

23. The collection of claim 22, wherein the collection is provided on a nucleic acid array.

24. The collection of claim 23, wherein the array detects full-matches to any one of the polynucleotides in the collection.

25. The collection of claim 23, wherein the array detects mismatches to any one of the polynucleotides in the collection.

26. The collection of claim 22, wherein the collection is provided in a computer-readable format.

27. A method of treatment comprising administering to a mammalian subject in need thereof a therapeutic amount of a composition comprising a polypeptide of claim 10 or 20 and a pharmaceutically acceptable carrier.

28 A method of treatment comprising administering to a mammalian subject in need thereof a therapeutic amount of a composition comprising an antibody that specifically binds to a polypeptide of claim 10 or 20 and a pharmaceutically acceptable carrier.

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(54) Title: NOVEL NUCLEIC ACIDS AND POLYPEPTIDES

(57) Abstract: The present invention provides novel nucleic acids, novel polypeptide sequences encoded by these nucleic acids and uses thereof.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/US01/14827

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC(7) : C07H 21/04; C12N 15/11, 15/63, 15/70; C07K 14/00

US CL : 536/23.1; 435/320.1, 455, 468; 530/300

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 536/23.1; 435/320.1, 455, 468; 530/300

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)  
EST, GENESEQ, GENEEMBL, ISSUED\_PATENTS, EAST**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Database SPTREMBL, ID No. Q9TS35, Bailey et al. 01 May 2000. See sequence alignment.	1-9, 19, and 22-26
X	Database Swiss-prot, ID No. P01922, Michelson et al. 21 July 1986. See sequence alignment.	1-9, 19, and 22-26
X	Database Swiss-prot, ID No. P01923, Zucherkanndl et al. 21 July, 1986. See sequence alignment.	1-9, 19, and 22-26
X	Database Swiss-prot, ID No. P01924, Matsuda et al. 21 July 1986. See sequence alignment.	1-9, 19, and 22-26



Further documents are listed in the continuation of Box C.



See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

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# INTERNATIONAL SEARCH REPORT

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## Box I Observations where certain claims were found unsearchable (Continuation of Item 1 of first sheet)

This international report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claim Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claim Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claim Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of Item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-9, 19, 22-26, and SEQ II NO:1

Remark on Protest ☐ The additional search fees were accompanied by the applicant's protest.  
☐ No protest accompanied the payment of additional search fees.